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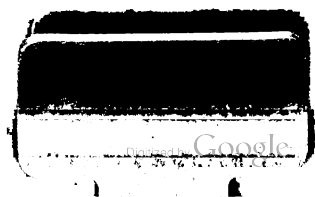
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No. 22

FOUR MODERN NAVAL CAMPAIGNS

The Publishers of the Unit Library are indebted to Sir William Laird Clowes, author of *The History of the Royal Navy*, for his courtesy in placing at their disposal the copyright work which forms this volume. The book is the first of many original works which, it is hoped, will from time to time be added to the Library.

The plans have been drawn for this issue, but it should be noted that in a few cases the spelling of name in them differs from the correct spelling in the text.

SIR WILLIAM LAIRD CLOWES

FOUR

MODERN NAVAL CAMPAIGNS

HISTORICAL, STRATEGICAL, AND TACTICAL

WITH MAPS AND PLANS



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P R E F A C E

THE most interesting, because the most momentous, questions which present themselves for study by a patriotic Briton are those which bear upon the future of the Empire on the sea. No one can foretell exactly what a naval war between powers of the first importance will be like, or what surprises it may bring forth ; yet we all know that, if Great Britain be a party to that war, the issue must be decisive of her fate. Either she must maintain, and indeed increase, the glories of her naval past by coming triumphantly out of the contest, or she must lose everything that now gives her a unique position in the world.

There is, therefore, no study so vital to the welfare of the Empire as the study of the modern art of naval warfare ; for only by study can a man become a master of that art ; and only by producing masters of that art in the day of need can Britain hold her own upon the ocean. Ships, guns, and men will not avail unless there be brains behind them.

Recent British history provides us with little whereon we can base such studies. Since the introduction of modern factors, such as steam, armour, high-powered guns, the ram, the torpedo, and the electric light, Great Britain has fortunately had no naval wars of any magnitude. She has certainly never met an opponent worthy of her. From her own experience, consequently, she can derive few suggestions, and little useful information.

Yet, while she has been so peaceful, there have been hot and well-fought naval wars with which she had no immediate concern ; although ships built in her yards, and guns

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turned out of her factories, not to speak of men owing allegiance to her flag, have been engaged in most of these contests. Thus, although Britons have but small experience of their own to draw upon, they have at their command, if only they choose to avail themselves of it, a large body of the experience of other people. Strange to say, they do not avail themselves of it. Up to the moment when I write, there does not, so far as I can ascertain, exist in English a full and analytical account, based on official reports, and upon the testimony of eye-witnesses, of any of the campaigns which are described in this little volume. When the events were quite fresh, and the evidence was still very scanty and conflicting, I myself attempted to describe the operations of the civil wars in Chili and Brazil in the pages of Lord Brassey's "Naval Annual"; and Mr. H. W. Wilson, in his "Ironclads in Action," has included sketches both of those and of some other modern naval campaigns. But in his treatment of the events in Chili in 1891, and of those in Brazil in 1893-94, Mr. Wilson admittedly depended very much upon my hasty work, the numerous imperfections and shortcomings of which were only too soon apparent to their author; and Mr. Wilson's narrative of the campaign of Lissa was perforce written without the assistance of much special information which I have since been able to secure; while his account of the war between Chili and Peru is confined mainly to the description of isolated episodes. Some of the published English accounts of the battle of Lissa, the one great fleet action of modern times up to the day of the engagement off Hai-yun-Tau, are so ridiculously misleading that it is difficult to guess whence the materials for them can have been procured. Hai-yun-Tau, by the way, and the whole Japanese-Chinese conflict of which it formed the leading naval feature, are fully as interesting and suggestive as any of the campaigns hereinafter dealt with; but, for the present, I have refrained from discussing the operations of that war, my view being that it can best be treated side

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by side with the Spanish American war which so quickly followed it, and that, at the moment, several points in the history of both campaigns remain obscure.

It is with the object of providing in a convenient form some bases for the study of modern naval warfare, of naval strategy, and of the tactics of the ship, the gun, the ram, and the torpedo, that I venture to put forward what follows. In his statement explanatory of the Naval Estimates of 1901-02 and 1902-03, Lord Selborne mentioned that a naval strategy course, to include strategy, tactics, naval history, and international law, had been commenced at Greenwich for the benefit of the senior officers of the Royal Naval College, and that the tactical courses at Portsmouth were being continued. Both he and Mr. Arnold-Forster have frequently insisted upon the importance of studies of that sort, and of the application of the practical lessons of the past to the practical work of the future. One at least of those gentlemen also expressed a hint that British naval officers should not be above taking lessons from the experience of foreigners, whenever such lessons could be usefully applied to the needs of Great Britain. Am I too sanguine if I express a hope that this little volume may be found worthy of the attention of those who are responsible for the strategical and tactical teaching which it is sought to disseminate in the Navy?

To the general reader I would also commend it. Most of us know all too little about the bravery and self-devotion which were displayed in these far-off wars; and few of us, I think, are the worse for being occasionally reminded that, even at sea, the Briton has no monopoly of courage, resource, and heroism.

W. L. C.

Sept. 1902.

FOUR

MODERN NAVAL CAMPAIGNS

I. THE NAVAL CAMPAIGN OF LISSA *

THE naval campaign of Lissa lasted for little more than a month ; yet there is probably no naval campaign—certainly no modern one—of even ten times the length, which presents so many points of interest, so much suggestion, and so great variety to the student. Ironclads were in their infancy ; for the *Warrior* had been less than six years afloat, and not five years had elapsed since the building of the *Monitor*. Both Italy and Austria, nevertheless, had already acquired a respectable squadron of armoured vessels ; and although many obsolete craft were also employed, the backbone of the fighting force on each side was composed of ships which were then absolutely modern, in the sense that not one of them was five years old. Several of them, moreover, were good enough to have deserved a place in the fighting line of any first-class naval power of the time, and had been designed by the most reputable constructors, and built in famous French and British yards.

The brief campaign included not only a pitched fleet action, but also a certain amount of preliminary scouting,

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and a series of attacks upon forts, with an attempt at landing. Apart from all this, Lissa has the distinction of being the first battle between armoured fleets in the open sea.

The commanders-in-chief on each side were notable personalities. Wilhelm von Tegetthoff, the son of an Austrian staff-officer, was born at Marburg, Styria, on December 23rd, 1827, and was educated at the Marburg Gymnasium and, from 1840 to 1845, at the College for Naval Cadets at Venice. In 1845, being then in his eighteenth year, he entered the Austrian Navy as naval cadet in the brig *Montecuccoli*, and later joined the corvette *Adria*. Obtaining a commission in 1848, he was appointed successively to several ships which served in 1848-49 in the blockade of Venice. In 1854, having continued in active service and attained lieutenant's rank, he was given command of the schooner *Elisabeth*, which cruised in the Levant, and, in 1855, of the steamer *Taurus*, which did police duty at the mouth of the Danube. In 1857 he accompanied Dr. Heuglin, the ornithologist, to the coasts of the Red Sea and the Gulf of Aden, and in Somaliland was taken prisoner and detained until a ransom was paid for him. While at Aden he received news of his promotion to be Corvetten-Capitän, and, on his return in 1858, he was given command of the screw corvette *Erzherzog Friedrich*, in which he visited the coast of Morocco to enquire concerning some shipwrecked Austrian subjects. During the Franco-Italian War with Austria he was assigned to the defence of the Venetian lagoons. He next became adjutant to the commanding admiral, the Archduke Ferdinand Max,* whom he accompanied in the *Elisabeth* to Brazil. In April, 1860, he was made Fregatten-Capitän, or commander, and appointed to the screw frigate *Radetzky* in the Levant. In 1861 he was given the screw frigate *Novara*, and again sent to the Levant, this time as senior officer. In 1863 he turned over to the *Schwarzenberg*, and visited the Suez Canal

* Afterwards the Emperor Maximilian, of Mexico.

OF LISSA

works, but was recalled and ordered to the North Sea, where he fought the battle of Heligoland. He was subsequently made a rear-admiral. After the War of the Duchies he worked at Vienna at the reorganisation of the navy, and also held command in the Mediterranean. Just before the war of 1866 he was about to take command of an expedition to Eastern Asia. After that war he travelled extensively, brought home in the *Novara* the body of the Emperor Maximilian, and served from 1868 as Chief of the Naval Section of the Austrian War Office. He died on April 7th, 1871.

It is worthy of remark that von Tegetthoff won his great success when he was less than nine-and-thirty. Nelson was more than forty-seven at Trafalgar ; Farragut was more than sixty-three at Mobile Bay ; Duncan was sixty-six at Camperdown ; and Howe was sixty-eight on the "Glorious First of June."

Von Tegetthoff's opponent was sixty when he was defeated at Lissa. Count Carlo Pellion di Persano was born at Vercelli, in Piedmont, in 1806, entered the Sardinian Navy in 1824, and attained the rank of captain in 1841. In command of the *Daino*, in the war of 1848-49, he distinguished himself. In 1851, in the *Governolo*, he took to England the Piedmontese exhibits for the exhibition of that year. During the operations of 1859 he commanded the *Carlo Alberto*, and was made a rear-admiral. He co-operated with Garibaldi on the coast of Sicily, directed the naval attack on Ancona, and received the sword of Lamoricière. For these services he was made a vice-admiral. In 1862 he was Minister of Marine, and on retiring from politics became an admiral. He had previously married an Englishwoman. After Lissa he was tried, and on January 29th, 1867, acquitted, on charges of cowardice and treason ; but on April 15th following he was found guilty of negligence and incapacity, and was deprived of his rank, dismissed the service, and condemned to pay the costs of the trial. He died on July 28th, 1883.

THE CAMPAIGN

The authorities to which I am chiefly indebted for the following account of the campaign are:

a. The official despatches and ships' logs, Austrian and Italian.

b. "Der Kampf auf dem Adriatischen Meere im Jahre 1866," published in 1869 by the Austrian General Staff, when von Tegetthoff was serving on it. For a copy of this I am beholden to the courtesy of the Marine Section of the Imperial and Royal Austrian-Hungarian War Ministry and to the personal kindness of Vice-Admiral Alexander Eberan von Eberhorst.

c. "L'Ammiraglio C. di Persano nella Campagna Navale dell' anno 1866," published at Turin in 1873.

d. "Rendiconti delle Udienze Pubbliche dell' Alta Corte di Guistizia nel Dibattimenti della Causa contra l'Ammiraglio Senatore Conte Carlo Pellion di Persano, precedenti dalla relazione della Commissione d'Instruttoria," published at Florence in 1867.

e. "Ancona e Lissa," the work of an Italian naval officer, who published it anonymously at Ancona in 1866.

f. "Relazione prima della Commissione d'Inchiesta sullo stato del materiale della Regia Marina," published at Florence and Genoa in 1867.

g. "Geschichte des Feldzuges, 1866, in Italien," by Captain A. Hold, published at Vienna in 1867.

h. "Lissa." (*Revue des Deux Mondes*, November 1st, 1866.) Attributed to the Prince de Joinville, who, however, denied the authorship.

i. A paper by Vice-Admiral Touchard in the *Revue Maritime et Coloniale* of 1866.

j. "Lessons from Lissa." A lecture delivered by the late Vice-Admiral Colomb on April 29th, 1867.

k. An article in *Archiv für Seewesen* for 1866. Another in *Rivista Marittima* for January, 1869.

l. "Tegetthoff." By Professor J. K. Laughton, R.N., in *Fraser's Magazine*, June, 1878.

m. Personal communications from officers, Austrian and

OF LISSA

Italian, who were present at the battle of Lissa. As several of these are of a confidential nature, I am precluded from giving the names of my informants.

I. PRELIMINARY MOVEMENTS OF THE AUSTRIANS

1. Previous to the declaration of war on June 20th, 1866, by Italy against Austria, hostilities by sea as well as by land had become almost inevitable, and Rear-Admiral Wilhelm von Tegetthoff, who had been placed in command of the imperial fleet, had made up his mind to neglect no opportunity for assuming the offensive. He lay in the roadstead of Fasana, Pola, with his force at anchor in four lines as follows :

FIRST LINE.

Prinz Eugen, ✓ *in 1st ad frigate*
Drache,
Kaiser Max, ✓ *screw ship*
Salamander,
Don Juan,
Erzherzog Ferdinand Max.

SECOND LINE.

Schwarzenberg,
Donau,
Adria,
Radetzky,
Erzherzog Friedrich.

THIRD LINE.

Hum,
Dalmat,
Wall,
Velebich,
Reka,
Streiter,
Narenta.

FOURTH LINE.

Elisabeth,
Greif,
Stadium,
Andreas Hofer,
Triest.

2. The armoured frigate *Habsburg*, the screw line-of-battle ship *Kaiser*, the screw frigate *Novara*, the screw gunboat *Seehund*, the screw schooner *Kerka*, and the paddle-vessels *Santa Lucia* and *Vulcan* had not then joined

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the flag. The *Santa Lucia* and *Triest*, after the declaration of war, were detailed to serve as despatch-boats for the maintenance of communication between Pola and the fleet, and took no other part in the operations of the war. Particulars of the remaining Austrian vessels, as well as of all the Italian ships that were actively engaged, will be found in the tables to be given hereafter (pp. 12, 13).

3. On June 20th Rear-Admiral Tegetthoff ordered the *Stadium* to reconnoitre the Italian coast from Ancona to Bari; but she returned on the 23rd, unable to report that she had observed any concentration of the Italian naval forces. This induced the rear-admiral to quit Fasana, and to make observations for himself. On the 24th he shifted his flag from the *Schwarzenberg* to the ironclad *Erzherzog Ferdinand Max*, and telegraphed to the Archduke Albrecht, the supreme commander-in-chief, requesting to know whether the fleet might assume the offensive, or at least reconnoitre the Italian coast in force. It happened that the 24th was the day of Custozza, and that the archduke, the victor in that action, was too much occupied to reply until the 26th. He then returned an answer to the effect that nothing stood in the way of the fleet's freedom of action within certain limits, but that operations must not be extended beyond Lissa, and that the mouth of the Po and the coast of Venice must be taken care of. In the interval the rear-admiral consulted with his captains and made provisional arrangements for operations against Ancona. The delay was not important, but it might have been so. In such a case the command ought to be vested in the man on the spot. Austria possessed no second fleet with which it was necessary that von Tegetthoff should co-ordinate his movements.

4. Upon the receipt of the archduke's reply von Tegetthoff, who waited until the evening, sailed with the *Erzherzog Ferdinand Max*, *Prinz Eugen*, *Kaiser Max*, *Don Juan*, *Drache*, *Salamander*, *Schwarzenberg*, *Hum*, *Streiter*, *Reka*, *Velebich*, *Elisabeth*, and *Stadium*, and

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appeared before Ancona at daybreak on the 27th. At about 3 a.m. the *Elisabeth*, which was scouting ahead of the fleet, sighted the Italian despatch-vessel *Esploratore*, which was cruising before the port, opened fire on her, and, assisted by the *Velebich* and *Reka*, chased her inshore. All the other ships cleared for action, and from 5.30 to 7.30 a.m. remained off the town at a distance of about two and a half miles. In the roadstead could be seen the Italian fleet, the greater part of which had left the Gulf of Taranto on the 22nd, and reached Ancona on the 25th. Eleven ironclads, four frigates, and two despatch-vessels could be counted; and smoke from other funnels could be observed rising above the quay of the inner harbour. The Italians were quite unprepared for this exhibition of boldness on the part of the Austrians. Persano made a signal which was not generally understood by his captains, and which, had it been understood, could not have been generally obeyed, several ships not being ready. ✓

5. Several of the Italian vessels got up steam, and two of the largest ironclads were put under way; but no craft ventured out, although the Austrians remained in the vicinity long enough to have enabled the Italians to challenge an action, had they been ready. The moral effect of this insult to a superior force by an inferior one was great on both sides.

6. The project of attacking an enemy of superior force, at anchor and protected by shore batteries, and possibly by mine-fields as well, did not recommend itself to the Austrian rear-admiral, who therefore, at about 8 a.m., drew off to the westward, putting his wooden ships in the van. Before sunset he reanchored off Fasana, where he found the *Habsburg*, which had arrived during his absence. Could ✓
Tegetthoff have induced the Italians to leave port, he would have given them battle, even on the 27th, when he was without the *Habsburg*, one of his two best ironclads; but he was too good a strategist to be willing to enter upon any operation which might weaken his own force without

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exposing the enemy's fleet in a corresponding degree. The Italian fleet was his first object throughout.

7. From that time, as there were rumours of an Italian descent upon Venice, all ships in port kept steam in half their boilers in readiness for immediate movement. On the 28th, towards sundown, Fort Brioni signalled that an iron-clad, flying a tricoloured flag, was in sight fifteen miles off. The *Kaiser Max* and *Don Juan* were ordered to proceed on reconnaissance, and they soon recognised the stranger as the British central-battery armoured sloop *Enterprise*, Commander Charles John Rowley, which was on her way from Ancona to Triest. On the 29th the *Prinz Eugen* proceeded to Malamocco (Venice), and on the 30th returned conveying a collier. On the same day a telegram, despatched by Field-Marshal-Lieutenant Baron Philipović, Statthalter of Dalmatia, informed von Tegetthoff that the Italian fleet was still at anchor in the roadstead of Ancona; that its force was stronger by four frigates than it had been observed to be upon the 27th; that it would probably be soon complete; and that, confident in its superiority, it would presently take offensive action.

8. The Austrians, after their return from before Ancona, made their final preparations for the struggle. All gear and stores that would be of no immediate value during an engagement were removed from the ships; the fleet pay-chest was divided among several vessels, and a new signal-book, which was to come into use on July 4th, was perfected. The adoption of a new signal-book at the beginning of hostilities has disadvantages as well as advantages.

9. On July 4th von Tegetthoff was reinforced by the *Novara*, which, by dint of extraordinary hard work, had been refitted in an incredibly short time in Tonello's yard at Triest, and subsequently armed and manned at Pola. She had been seriously damaged by fire at Pola on May 3rd.

10. On July 6th the rear-admiral took his fleet to sea for exercise at steam tactics, and carried it within sight of

OF LISSA

Monte d'Ancona, but brought it back to Fasana after dark and reanchored it. This brief cruise seems to have satisfied von Tegetthoff either that the Italians were still far from ready, and so could not leave port, or that they were inclined to neglect his fleet, and embark upon ulterior operations without having first reckoned with him.

11. On the 9th the rear-admiral summoned all his captains on board the flagship, and learnt their views as to the seaworthiness and general behaviour of their vessels; and on that and the two following days fires were drawn and the machinery and boilers of all the vessels were thoroughly cleaned. This, though a measure of wise precaution, might have been risky at such a moment, if the Italians had been ready and venturesome; but by that time von Tegetthoff had formed conclusions about the character of the Italian chief.

12. The Italians, in a manner which then appeared inexplicable, still delayed the commencement of their operations; and it was not until July 10th, on which day the arrival of the paddle-steamer *Vulcan* brought up the Austrian fleet to its intended strength, that news reached Fasana that about twenty hostile vessels were in sight twenty or twenty-five miles off Lissa, and that an Italian squadron of sixteen sail was off Isola Grossa. Von Tegetthoff could not then put to sea in force, owing to the orders relative to his machinery and boilers; nor did he want to. He desired, rather, to see the Italians commit themselves to some useless, inconclusive, and possibly damaging venture, and so lay themselves open to his onslaught under favourable conditions.

13. These movements led to no immediate result; and in the course of the 12th and 13th of July the Government of Dalmatia was enabled, by means of the *Fiume*, *Venezia*, and *Egitto*, and of the *Santa Lucia* and *Vulcan*, which were lent from the fleet, to obey orders from the Minister of War to send to Triest four battalions from Sebenico, Lissa, Castelnovo, and Cattaro. The enemy did not attempt to

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interfere. Indeed, between the 14th and the 17th the *Curtatone* was allowed, without hindrance, to carry part of the Hohenlohe Infantry Regiment from Cattaro to Zara, and then to return to her station at Cattaro. Nothing could show more clearly the ineptitude of the Italians and the inefficiency of their scouting arrangements. They had cruisers enough, if not to stop all such movements, at least to report them. It seems that they were not observed at all.

14. On the 14th the British sloop *Enterprise* again passed and was sighted; and on the 15th the *Drache*, which was cruising in the offing, observed the French armour-clad *Provence*, bound for Venice. It seemed as if the prospect of an action at sea was becoming remote. The mediation of France, on the basis of the transfer of Venice to Italy, had begun; and the presence of a French battleship, which, according to an official intimation received in the fleet on the 11th, might be regarded as the precursor of a French squadron, seemed to indicate that the negotiations were moving to a conclusion.

15. Rear-Admiral von Tegetthoff was very anxious concerning the influence which the rumours of the surrender of Venice, and of the retirement of the Austrian Southern Army, might have upon his men, eight hundred of whom came from Venice, and he begged the Minister of War, in case of the actual surrender of that city, to order the Venetian seamen to be sent ashore; but the answer that came back was: "Venice not yet given up; task of the squadron unchanged"; and this despatch, published as a fleet order, not only tranquillised the command, but also reassured those more energetic spirits who had begun to fear lest the navy might have no part in the campaign. Moreover, at about the same time there came from the southward news that the Italians seemed disposed to abandon their inactivity and to make a movement of some kind.

16. At last, on July 17th, there reached the fleet at Fasana the following telegram from Lissa: "A man-of-war,

OF LISSA

under British colours, came in sight from the N.W., reconnoitred the island, and has drawn off to the S.E. "; and on the 18th, at 11 a.m., there arrived from the same place two despatches, dated respectively 8.30 and 9.20. The first ran : "Nine ships-of-war, without colours, are about twenty miles off, and are approaching the island from the N.W. "; the second : "Ten war-steamers, fifteen miles off and under French colours, are approaching from the direction already signalled."

17. Rear-Admiral von Tegetthoff sent on these despatches to the Ministry of War at Vienna, and to Field-Marshal-Lieutenant Baron Maroičić at Görz, adding: "Think, therefore, should not go to the S.E., since this may be a demonstration of Italian ships to entice the squadron away from here. Beg, nevertheless, for intimation of views as to how squadron should act in face of such news. *Salamander* makes much water, and is obliged to go to Pola." Von Tegetthoff, who, I think, had previously made up his mind that the Italians meant to attack some part of the coast or islands, desired, apparently, that they should not attack Pola during his absence from his base, and that they should attack one of the numerous tempting points among the islands.

18. At about 2 p.m. other despatches came in from Lissa. One, sent off at 10.10 a.m., was : "Ships already signalled manœuvring N.W., colours down. Am preparing for action." A second, despatched at 11.45 a.m., was : "Ships already signalled approaching Lissa, distant ten miles." A third, despatched at 12.20 p.m., was : "Comisa attacked by twelve ships, Sardinian colours."

19. The last of these telegrams was forwarded to the Ministry of War by the rear-admiral with the addition : "I maintain my former view. Request orders, seeing that Lissa is very far removed from probable main point of attack." In other words, he could not then believe that the enemy would be so foolish as to risk himself against so unimportant a point. The idea seemed too good to be true. To the officer commanding at Lissa, von Tegetthoff telegraphed

NAVAL FORCES OF AUSTRIA-HUNGARY, CAMPAIGN OF LISSA, 1866

CLASS.	NAME OF SHIP	COMMANDER.	Tonn.	Horse power (nominal).	Men.	GUNS.						
						Total.	pounds.					
							24	60	48	30	12	
							R. B. L.	Shell	S. B. M.	S. B. M.	S. B. M.	R.
1st Division.												
W. Ironclad Frigate	<i>Ferdinand Max.</i>	<i>I Capt.</i> Max, <i>Friedrich v. Sternneck</i> , <i>R. Adm. W. v. Tegetthoff.</i>	5,130	800	489	18	..	..	18	..	..	..
W. " "	<i>Habsburg.</i>	Carl Fabr.	6,130	800	478	18	..	..	18	..	..	..
W. " "	<i>Kaiser Max.</i>	Gustav, <i>Ritter v. Gröller.</i>	3,688	660	386	30	14	..	16	..	..	..
W. " "	<i>Prinz Eugen.</i>	Alfred Barry.	3,688	660	386	30	14	..	16	..	..	..
W. " "	<i>Don Juan de Austria.</i>	Anton, <i>Euler v. Wipflinger.</i>	3,688	660	386	28	14	..	14	..	..	..
W. " "	<i>Drache.</i>	Heinrich, <i>Friedrich v. Moll.</i>	3,065	500	343	26	16	..	10	..	..	..
W. " "	<i>Salamander.</i>	Carl Kern.	3,065	500	343	26	16	..	10	..	..	..
W. Paddle Aviso	<i>Kaiserin Elisabeth.</i>	Tobias Osterreicher.	1,470	350	186	6	..	..	..	..	..	4
W. Screw Battleship	<i>Kaiser.</i>	Anton v. Peta (<i>Commodore</i>).	5,194	800	904	92	3	..	..	..	..	..
W. Screw Frigate	<i>Novara.</i>	Erik of Khint.	2,497	500	533	51	3	..	..	..	..	..
W. " "	<i>Fürst Schwarzenberg.</i>	Georg Milosich.	2,514	400	547	46	4	..	..	..	..	..
W. " "	<i>Adria.</i>	Josef v. Aurnhammer.	2,198	300	396	31	3	..	..	..	..	..
W. " "	<i>Erzherzog Friedrich.</i>	Adolf Dautalik.	2,198	300	396	31	3	..	..	..	..	..
W. " "	<i>Dona.</i>	Max. Pittner.	2,198	300	396	31	3	..	..	..	..	..
W. Screw Corvette	<i>Graf.</i>	Marcus Florio.	1,474	230	294	22	2	..	..	..	..	..
W. Paddle Aviso	<i>Stadlum.</i>	Victor, <i>Graf Wimpfen.</i>	1,400	300	102	2	..	..	..	..	..	..
W. Lloyd Steamer	<i>Hun.</i>	Ludwig Eberle (<i>near off</i>).	889	230	139	4	..	..	..	..	..	..
W. Screw Gunboat	<i>Dalmat.</i>	Wilhelm v. Wickede.	863	230	139	4	..	..	..	..	..	..
W. " "	<i>Wall.</i>	Alex., <i>Graf Kleinsauzege.</i>	853	230	139	4	..	..	..	..	..	..
W. " "	<i>Veleich.</i>	Victor Herzfeld.	869	230	139	4	..	..	..	..	..	..
W. " "	<i>Rick.</i>	Adolf Nollberg.	852	230	139	4	..	..	..	..	..	..
W. " "	<i>Schund.</i>	Wilhelm Calkfatti.	852	230	139	4	..	..	..	..	..	..
W. " "	<i>Sirreker.</i>	Rudolf Ungewitter.	852	230	139	4	..	..	..	..	..	..
W. " "	<i>Narenia.</i>	Franz Spindler.	501	90	100	6	..	..	..	..	..	..
W. Screw Schooner	<i>Kerka.</i>	Gustav Masotti.	501	90	100	6	..	..	..	..	..	..
W. Paddle Aviso	<i>Andreas Hofer.</i>	Ulrich William Lund.	770	180	109	4	1	..	..	..	..	..
						57,344	10,360	7,571	632	115	26	116 269 6

NOTE.—The elongated shell for the 24-pdr. R. B. L. weighed 64 lbs.; the steel ball for the 48-pdr. S. B. M. 55 lbs.; the shell for the 60-pdr. gun, 57½ lbs.; the ball for the 30-pdr. S. B. M., 32½ lbs.; and the shell for the 30-pdr. S. B. M., 24½ lbs.

NAVAL FORCES OF ITALY, CAMPAIGN OF LISSA, 1866

CLASS.	NAME OF SHIP.	COMMANDER.	Tons.	Horse pwr. (normal).	Men.	Total Guns.	Armstrong steel R. 10"	Armstrong steel R. 8"	Hooped R. 4"	R. 7"	S. R. M., 8"	Howitzer, 9"	S. R. M., 7"	R. 4.7"
W. Ironclad Frigate	<i>Re d'Italia.</i>	<i>I Capt. Conte Foa di Bruno, Adm.</i>	5,700	800	600	36	2	2	16	14	4	..	..	..
W. " "	<i>Re di Portogallo.</i>	<i>" " Persano.</i>	5,700	500	550	28	..	..	12	14	4	..	..	..
I. L. " "	<i>Ancona.</i>	<i>" " Cavali. Ribotti.</i>	4,250	700	484	27	..	..	22	1	4	..	..	..
I. L. " "	<i>Maria Pia.</i>	<i>" " Marchese del Carretto.</i>	4,250	700	484	26	..	..	18	4	4	..	..	..
I. L. " "	<i>Castelfardo.</i>	<i>" " Caval. Cacace.</i>	4,250	700	484	27	..	..	22	1	4	..	..	..
I. L. " "	<i>San Martino.</i>	<i>" " Roberti.</i>	4,250	700	484	26	..	..	16	6	4	..	..	..
W. " "	<i>Principe de Carignano.</i>	<i>" " Jauch, Rear-Ad.</i>	4,086	600	440	23	..	..	12	6	4	..	..	..
I. Ironclad Turretship	<i>Affondatore.</i>	<i>" " Vacca.</i>	4,070	700	290	9	2	..	10	6	4	..	..	..
I. Ironclad Corvette	<i>Ferrotto.</i>	<i>" " Martini.</i>	2,700	400	356	20	..	..	10	6	4	..	..	..
I. L. " "	<i>Formidabile.</i>	<i>" " Barone de Cosa.</i>	2,000	300	250	6	2	..	2	2	2	..	..	1
I. L. " "	<i>Paletro.</i>	<i>II Capt. Caral di Saint-Bon.</i>	2,000	300	250	4	..	..	..	..	..	..	..	..
I. L. " "	<i>Vares.</i>	<i>" " Fincati.</i>	3,515	600	580	50	..	..	..	8	10	32	..	..
W. Screw Frigate	<i>Duca di Genova.</i>	<i>I Capt. " di Clavesana.</i>	3,200	400	580	50	..	..	..	8	10	32	..	..
W. " "	<i>Vittorio Emanuele.</i>	<i>II Capt. " Fucci.</i>	3,415	500	550	50	..	..	..	8	10	32	..	..
W. " "	<i>Garibaldi.</i>	<i>I Capt. Duca. R. Vitagliano.</i>	3,680	450	580	54	..	..	..	8	12	34	..	..
W. " "	<i>Principe Umberto.</i>	<i>" " Barone Guglielmo Acton.</i>	3,501	600	580	50	..	..	..	8	10	32	..	..
W. " "	<i>Gaeta.</i>	<i>" " Caral Carruti.</i>	3,580	450	580	54	..	..	..	8	12	34	..	..
W. " "	<i>Maria Adelaide.</i>	<i>" " " di Monale, Vice-Ad. Conte Albini.</i>	3,459	600	550	52	..	..	..	10	23	..	..	..
W. Screw Corvette	<i>San Giovanni.</i>	<i>II Capt. " Burrone Lerzari.</i>	1,780	220	315	20	..	..	..	6	..	14	..	..
W. Paddle Corvette	<i>Gulcaro.</i>	<i>" " Gogola.</i>	1,700	450	280	10	..	..	..	..	10	..	..	..
W. " "	<i>Ettore Fieramosca.</i>	<i>" " Pepi.</i>	1,400	300	190	6	..	..	..	..	2	..	..	..
W. Screw Gunboat	<i>Montebello.</i>	<i>" " Baldisarotto.</i>	1,400	300	190	6	..	..	..	2	..	..	..	..
W. " "	<i>Viasaglio.</i>	<i>" " Sandri.</i>	282	60	63	4	..	..	..	..	..	..	..	4
W. " "	<i>Confienza.</i>	<i>" " Foscolo.</i>	282	60	63	4	..	..	..	..	..	..	..	4
W. " "	<i>Messaggiere.</i>	<i>" " A. Conti.</i>	1,000	350	108	2	..	..	..	..	..	..	..	4
W. Paddle Aviso	<i>Esploratore.</i>	<i>II Capt. Giribaldi.</i>	1,000	360	108	2	..	..	..	..	..	..	..	2
W. " "	<i>Giglio.</i>	<i>" " Oregu.</i>	250	60	26	..	..	..	..	..	..	..	..	..
Hired Paddle Aviso	<i>Flavio Gioia.</i>	<i>I. Lieut. Denigri.</i>	2,000	350	108	..	..	..	..	..	..	..	..	..
Paddle Store-ship	<i>Stella d'Italia.</i>	<i>" " Moro.</i>	2,000	350	108	..	..	..	..	..	..	..	..	..
Screw Hospital-ship	<i>Indipendenza.</i>	<i>" " Berlingieri.</i>	2,000	350	108	..	..	..	..	..	..	..	..	..
Hired Paddle Vessel	<i>Washington.</i>	<i>" " Liparochi.</i>	600	300	98	2	..	..	..	..	..	..	..	..
W. " "	<i>Piemonte.</i>	<i>" " Zicavo.</i>	1,400	250	98	2	..	..	..	..	..	..	..	..
		<i>?</i>	?	?	?
			36,032	14,160	10,885	645	4	6	140	128	56	74	218	17

NOTE.—The elongated projectile for the 10-in. gun weighed 265 lbs.; the elongated projectile for the 8-in. Armstrong gun, 147 lbs.; the steel bolt for the 7-in. R. gun, 107 lbs.; the elongated shell for the 7-in. R. gun 74 lbs.; and the steel ball for the 8-in. S. R. M., 54 lbs.

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an enquiry as to the nature of the hostile vessels, in order that he might form an opinion about the real intention of the Italians. Soon afterwards there reached him the brief despatches : "Harbour of Lissa attacked" (12.40 p.m.), and "Hot artillery action at Lissa, without damage" (1.15 p.m.). Further telegrams, received in the course of the afternoon, gave a bald description of the progress of the engagement, and at 11 p.m. came the reply of the Commander-in-Chief of the Southern Army to von Tegetthoff's repeated enquiries as to what portion of the coast was, in the circumstances, to be most carefully guarded, and as to what was to be done to that end. The answer was : "Do not venture on any division of the squadron, and frustrate as far as possible every attack on the coasts of Istria and Triest." On the morning of the 19th news arrived that the fighting at Lissa had been renewed ; that the whole Italian fleet was engaged there ; and that, therefore, no operations could be simultaneously intended against any other part of the coast.

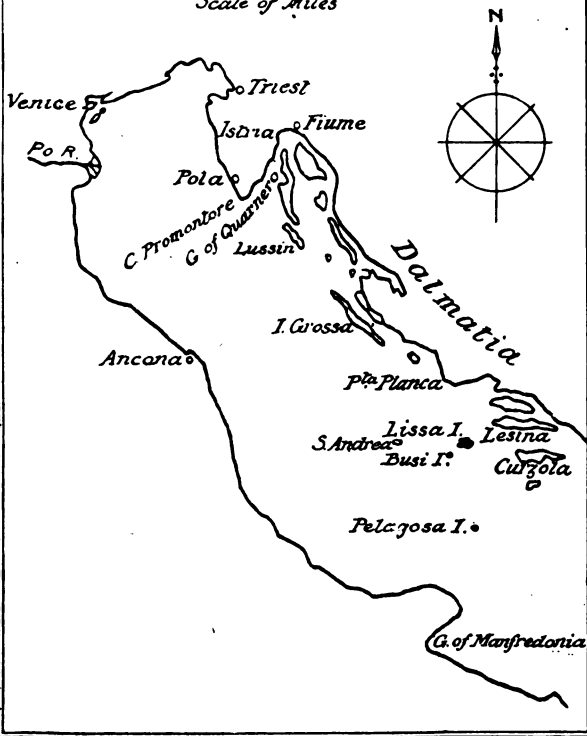
✓ 20. Rear-Admiral von Tegetthoff thereupon determined to sail ; to fall upon the enemy while thus engaged ; and, incidentally of course, to carry out his orders by frustrating the attack on Lissa. He communicated his decision by telegraph to the Ministry of War and to the Commander-in-Chief of the Southern Army, asking for speedy replies ; received his captains on board the flagship at 10.30 a.m., in order to make them acquainted with his plans ; and at 10.45 a.m. signalled : "Light all fires," and "Ships that have steam will weigh." The *Vulcan* was directed to tow all lighters, etc., to Pola, and, with the *Santa Lucia* and *Triest*, to place herself at the disposal of the port authorities, who were to take measures for the shipping, as rapidly as possible, of 1,000 tons of coal ; and the *Stadium* took up a position under Fort Brioni, there to await the telegrams which were expected at 2 p.m., and to carry them to the fleet. Von Tegetthoff's anxiety with regard to coal contrasted strangely with Persano's short-sightedness with respect to this need of his ships.

THE NORTHERN ADRIATIC 1866.

*There was a cable from Lissa to
Lesina and so to the Mainland.*

0 20 40 60 80 100 120

Scale of Miles



To face page 14.]

TO THE
LIBRARY

OF LISSA.

21. A large number of the ships had already proceeded to sea when instructions reached the rear-admiral from the Ministry of War to act according to his own judgment, but not to go out in consequence of a mere demonstration against Lissa. It was no longer, as every despatch from the island proved, a question of a mere demonstration; and at noon the flagship quitted Fasana Roads. At 1.30 p.m. she had joined the rest of the fleet in the offing, and a little later, amid the strains of the National Hymn and the thundering cheers of the ships' companies who thronged the hammock-nettings and the shrouds, the *Ferdinand Max* took her place at the head of the line.

II. PRELIMINARY MOVEMENTS OF THE ITALIANS

22. Having now described the preliminary movements of the Austrians, I may fitly, before dealing with the attack on Lissa and the subsequent battle off that place, say something about the preliminary movements of the Italians.

23. The Italian Admiral, Count Carlo Pellion di Persano, who, as early as June 8th, had, in view of the outbreak of hostilities, been ordered "to sweep the enemy from the Adriatic, and to attack and blockade them wherever he should find them," was, on June 20th, telegraphically apprised by Signor Agostino Depretis, Minister of Marine, of the declaration of war, and directed without delay to proceed to Ancona with the ships (including nine ironclads) which were then at Taranto. ✓

24. Persano, in consequence, quitted Taranto on June 22nd with nineteen vessels, but, as his slowest ship was not capable of a speed of more than five knots an hour, did not reach the harbour of Ancona until the 25th. On the same day he addressed to the Ministry of Marine a note on the wants of the fleet, particularly specifying telescopes, despatch-boats of greater speed than he possessed, as many Armstrong guns as possible, and more ironclads. The ministry complied in a few days with the most pressing and most readily granted of these requests, but declined the application, ✓

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✓ which, in view of the composition of the Austrian fleet, appeared to be somewhat unreasonable, for more ironclads. Persano already had with him three more than von Tegetthoff, whose force practically represented the whole Austrian navy.

25. The departure from Taranto had interfered with the new arming of the ships, but this was resumed with great energy at Ancona, and the three ironclads *Re d'Italia*, *Palestro*, and *Varese* were each supplied with two 150-pounder (8-inch) Armstrongs.

26. On June 27th, when the Austrian squadron appeared before Ancona, only one vessel was still engaged in changing her guns, but she also finally took on board two weapons of the new pattern. The remaining craft were busy coaling, or were attending to the last of their repairs. The approach of the enemy was promptly remarked by the despatch-vessel *Esploratore*, Commander Cav. Orenco, and at 4 a.m. was signalled to the fleet.

27. Upon the admiral, who had gone on board the *Esploratore*, signalling "*Assetto di combattimento*," all the ships prepared for action, and, in two hours, ten ironclads, four frigates, one screw corvette, one paddle corvette, three screw gunboats, and the paddle despatch-vessel were ready to engage. The ironclads *Maria Pia*, *San Martino*, *Principe di Carignano*, and *Castelfidardo* were the first to proceed into the roadstead, and later, at the order of Admiral Persano, most of the others went in the direction of Monte Conero, two miles from the port, so as to take their places in line of battle under the protection of the shore batteries. This manœuvre gave the Austrian fleet time to withdraw absolutely unmolested by its greatly superior enemy. Persano's interpretation of the order to sweep the Austrians from the Adriatic, and to attack and blockade them wherever he should find them, ought, I think, to have led to his instant supersession by Depretis.

28. At a conference held later on board the *Principe di Carignano* with Rear-Admiral Vacca, d'Amico, Chief of the

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General Staff, and Captains Jauch and Bucchia, Admiral Persano declared that he had not attacked the imperial fleet because three of his ironclads, the *Re d'Italia*, *Re di Portogallo*, and *Ancona*, would not have been able to participate. Even without them, however, his force, especially in gun power, would have been vastly superior to that of von Tegetthoff. All his actions at the time tended to undermine the moral of his people, and the confidence of his officers in himself and themselves. Moreover, it was not a fact that the *Re d'Italia* and *Re di Portogallo* could not have participated. He is also understood to have intimated that his instructions assigned to him more important operations—that he had orders not to risk the fleet—and that he looked for no advantage to result from following the foe. It is evident, not only that Persano misrepresented his instructions, but also that he was so strategically blind, and so morally timid, if nothing worse, that he was practically paralysed. It is known, too, that the reverses which had been suffered already by the Italians on shore had taken the heart out of him.

29. In his despatch to the Ministry of Marine, Persano put forward the necessitous condition of several ships as a reason for his inactivity on that day, but added that the fleet would be ready in a short time to attack the enemy, who, so soon as he had observed the formation of the Italian fleet, had taken to flight in the direction of Pola.

30. Although on June 28th it was reinforced by the screw frigate *Vittorio Emmanuele*, the screw corvette *San Giovanni*, and the paddle despatch-boat *Sirena*, the Italian fleet remained for another ten days at anchor at Ancona, occupied solely in completing the equipment of the ships, and in putting itself into fighting order. Persano, unfortunately, had not the art, possessed in the highest degree by Saumarez and Nelson, of inspiring his people, and of getting good work out of them even on the darkest days. His example only increased their lack of confidence.

31. On July 5th France began diplomatic intervention,

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which the Italian Government, hesitatingly and without relaxation of hostilities, accepted. Impressed by the importance at that juncture of a decisive action, and prompted by the voice of the people, the Minister of Marine on July 5th telegraphed as follows to Admiral Persano: "The most serious considerations call for the hastening of the complete equipment of the fleet. I have despatched the *Carlo Alberto*, *Principe Umberto* (screw frigate), and *Governolo* (paddle corvette) from Naples, and ordered the immediate completion of the *Affondatore*. Inform me as to when the fleet will be ready to go to sea, and of what vessels it will consist." It should be explained that the *Affondatore*, lately built in England, had quitted Gibraltar on June 28th, and proceeded with all possible speed to Naples.

✓ 32. A second telegram of the same day ran: "The proposals of the Emperor of the French do not hinder the prosecution of hostilities; on the contrary, an action with definite result would be useful. The hastening of the equipment is pressing."

33. Thereupon Admiral Persano replied: "If the matter be pressing, the fleet is completely ready to put to sea; but two days are yet needed, if the guns are to be embarked and the carriages fitted. The other needs are secondary. But I desire instructions, for I have none of any value except those of June 8th." It might be thought that these were explicit enough and all-sufficing (see § 23). Persano's telegram surely savoured of impertinence.

✓ 34. Having received this message, the Minister of Marine, on the same day, telegraphed: "Let the fleet put to sea to-night, and do you await at sea those ships which are still engaged in getting their guns on board. Despatch is necessary."

35. The definite and specific instructions which had been asked for were thus given; yet, in spite of the urgent nature of the order and its precise wording, the fleet did not leave its anchorage. In a telegram of July 6th to the Minister of Marine, the admiral, while declaring that, except

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as regards the new guns, he was ready, requested more directions, using the following words : "I beg you to state definitely whether I am to attack the enemy should he be protected by fortresses. It would be better if the *Affondatore* were here; yet I will proceed without her. You know the situation, and will therefore be able to say whether an action will be sufficient, or whether a definite result is required." It is pitiful to find an officer, who was afterwards acquitted of cowardice and treason, shilly-shallying in this manner.

36. The Minister of Marine reiterated his urgent orders that the fleet should instantly leave the roadstead of Ancona, and repeated that it was important to fight the enemy and to beat him. To attack fortresses before the Austrian fleet should be defeated was not deemed to be desirable. Such an attack was indicated as an operation which, after a victory won, might be rendered advisable by circumstances, and by the results attained and to be attained. The strategy then outlined by Depretis was perfectly sound; but the judgment of a minister who could still continue Persano in command must have been at fault, and that it was so is shown by the minister's feeble change of strategy on July 15th (see § 41).

37. The interchange of these despatches occupied three days; and still the fleet did not sail. On July 7th fresh orders arrived from the minister. These were to the effect that :

a. Persano was to seek the enemy, attack him in accordance with the instructions of June 8th, and press the action to the utmost in order to secure a decisive result.

b. Should the enemy's fleet remain in Pola, or should it take refuge there, Persano should blockade Pola with an adequate force, but remain out of gunshot of Pola and of the works protecting the roads of Fasana.

c. The main object of the naval operation was, before all other things, to obtain command of the Adriatic, by freeing that sea from the Austrian fleet. Should Persano encounter

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that fleet, he was to follow it, attack it and beat it, or at least drive it into port, and there block it up in such a way as would prevent it from issuing forth again.

38. At length, at 4.30 p.m. on July 8th, the fleet, with the exception of a few vessels which were still completing for sea and which remained behind under Rear-Admiral Provana, received the order to sail, not, however, that it might go in search of the enemy, although it is true that Admiral Persano specified this as the object of his operations. The fleet quitted the harbour at 6 p.m., and having arrived off the Gulf of Quarnero at 9 a.m. next day, returned again towards Ancona, so that by 2 p.m. it was about forty miles to the S.E. of Monte Conero. This was the rendezvous that had been given to Rear-Admiral Provana. On the following day it stretched over towards the Dalmatian coast, approaching Isola Grossa and Lissa within about twenty-five miles, but then retiring again to sea, and exercising at steam tactics, signalling, and gun-drill, yet not firing, in spite of the fact that many of the newly mounted guns had, of course, never been fired on board ship, and were strange to the people.

39. In this manner, distant alike from the coast of Italy and from that of Dalmatia, and as invisible to friend as to foe, the fleet manœuvred for three days on the line $43^{\circ} 11' N$. Having expended a good deal of coal, the loss of which could not be made good at sea, and not having sighted the coast of Venice or Istria, much less the enemy, it returned to Ancona early in the morning of July 13th, and relapsed into its former inactivity, regardless of the will of the Minister of Marine, who, foreseeing that it must come back to replenish bunkers, had, on July 10th and 11th, forwarded to Ancona two despatches, requiring Persano to fill up in the shortest possible time, to go to sea again, and to carry out his instructions.

✓ 40. Admiral Persano evidently considered himself to be still too weak to attempt decisive action against the imperial fleet, and his three days' experimental cruise in the Adriatic

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seems to have convinced him that, before risking an engagement, further exercises were very necessary; nor can it be pretended that the Italian fleet, even at that period, was in the condition of perfection which, at the beginning of the mobilisation, the Marine Ministry had considered it should attain ere it could successfully engage the Austrians. Persano was not the man to correct the shortcomings in discipline and training. On the other hand, the dockyard authorities, it must be admitted, were much to blame. The fleet was to have consisted of thirty-five vessels. Of its twelve ironclads, the *Affondatore*; of its heavy wooden vessels, the screw line-of-battle ship *Re Galantuomo*, the screw frigates *Carlo Alberto* and *Principe Umberto*, the paddle corvettes *Governolo* and *Fulminante*, and the screw corvettes *Clotilde* and *Etna*; and of its small craft, two despatch-vessels, one brigantine, and several transports, were absent. In fact, of the thirty-five men-of-war, inclusive of armed despatch-vessels, which had been intended to compose the active naval force, eleven were not upon the spot; so that on July 14th the fleet included only eleven ironclads, five screw frigates, one screw corvette, two paddle corvettes, three screw gunboats, and two despatch-vessels. [Thus, leaving aside considerations of tonnage, engine-power, armour, and armament, and looking merely at numbers, the Austrians were inferior, as regards big ships, only by four ironclads and one heavy wooden vessel, and they actually had a superiority in the matter of gunboats. In other material respects, and particularly in gun-power, the Austrians were, it is true, at a great disadvantage; but Persano seems to have doubted whether (looking to the supposed probability that the enemy, if he fought at all, would fight in the neighbourhood of a well-fortified harbour) all the superiority possessed by the Italians would justify them in hoping for a decisive result from an engagement. He judged von Tegetthoff by his own poor self. He therefore wished to await the arrival of a few more vessels, and especially of the ram *Affondatore*. ✓

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Nearly all his letters and despatches mentioned this ship, and urged the hastening of her junction with the fleet. The inactivity of the admiral was, nevertheless, so unwelcome to the people and the Government, that the Minister of Marine deemed it wise to betake himself personally to Ancona, in order to goad Persano to begin hostilities by means of a hint that otherwise he must be relieved of his command.

41. The Minister of Marine arrived on the morning of July 15th, summoned d'Amico, the chief of the general staff of the fleet, and asked him whether he held that a sudden descent on Lissa offered prospects of success. D'Amico was of opinion that, as the conclusion of a truce seemed to be imminent, neither Venice nor Pola could be attacked; but that if it were required to deal some swift blow, no place was more suitable than Lissa as a scene of operations. Rear-Admiral Vacca, who was present, agreed with this opinion. A little later the project of a suitable descent on Lissa was put before Admiral Persano, who, raising no objections, required only that a landing force of four or five thousand men should be placed at his disposal. Neither minister nor admiral seems to have raised a question as to the whereabouts of von Tegetthoff, or as to the probable attitude of his undefeated fleet. It seems to have been concluded that, because the Austrians had not attacked the Italians under the batteries of Ancona, they would not attack them anywhere. Indeed, Persano's feeble mind swung over-readily from the extreme of moral timidity to the extreme of insensate rashness; and he finally went out on his mad expedition without an ounce of coal save what his ships had in their bunkers—coal, that is, sufficient only for four or five days' steaming—though he realised clearly enough that he was not in the least likely to capture Lissa in a day or to find any fuel there.

42. On the same day there arrived from the headquarters at Ferrara a memorandum by General La Marmora. This had been despatched by order of the king, and it admitted of no further postponement of operations. As the Minister

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of Marine undertook to strengthen the available landing force by fifteen hundred men at once, and to send without delay further reinforcements of one battalion of marine infantry, two companies of engineers, and fifteen hundred chasseurs, under the command of General Fontana, Persano determined to sail on the following afternoon for an attack upon Lissa.

III. LISSA AND ITS DEFENCES

43. Lissa is a mountainous island, forty miles from the Dalmatian mainland, and having between it and the mainland the islands of Lesina and Brazza. It is about eleven miles long from east to west, and six miles broad from north to south. The western extremity splits into two promontories, between which lies the Bay of Comisa, with the town of Comisa at its head. Near the north-east extremity, at the head of Port St. Giorgio, lies the town of Lissa. At the south-east corner of the island is Porto Manego. The whole coast is much broken and lofty, and some of the interior peaks have an elevation of nearly 2,000 feet.

44. The island was for some time, during the Napoleonic wars, occupied by the British, who fortified it, and when it was restored to Austria the fortifications were repaired and improved.

45. Port St. Giorgio, which is about one and a half miles long and half a mile broad, runs inland in a westerly direction. On the north side the approach, at the beginning of 1866, was protected by Fort Georg and the smaller works Battery Mamula, Robertson Tower, Battery Zupparrina, and Bentinck Tower, all of which stood on the small promontory which juts out between Port St. Giorgio and Porto Karober. On the south side, at the narrowest part of the entrance, stood Battery Schmid, with Wellington Tower above and behind it. At the head of the harbour was Battery Madonna. All the works, save Wellington Tower, which had fallen into decay, were in good order, though they were not modern, and had been constructed

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only to cope with wooden ships. In addition to them, upon the highest point of the road between Port St. Giorgio and Comisa, was a work known as Fort Max.

46. Just before the outbreak of the war Bentinck Tower and its outlying defences were strengthened; Wellington Tower was repaired; Battery Magnaremi was erected on the north side of the mouth of the Bay of Comisa; a work was thrown up on Monte Perlic on the south side of the same bay; two works were completed on the Vrani Kamić to dominate the N.W. corner of the island, and Battery Nadpostranje was built above Porto Manego. Finally, above and behind Battery Madonna, at a height of about 800 feet, seven emplacements were made and armed on the hills of Andrea and Cosmo. The island was united by means of a telegraph cable with Lesina and Brazza, and could also communicate with those islands by means of optic telegraphs, or semaphores, placed on the peaks.

47. The various works which have been briefly catalogued were armed as follows:

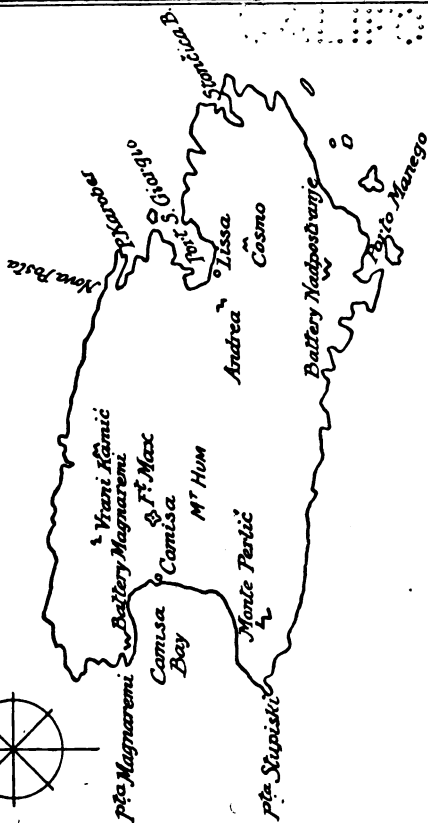
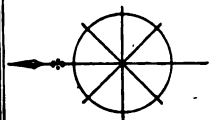
	60-pdr. Mortar.	48-pdr. S. B. M.	30-pdr. Mortar.	30-pdr. Howitzer.	30-pdr. Shell Gun.	24-pdr. R. B. L.	24-pdr. M. L.	18-pdr. S. B.	12-pdr. R. B. L.	12-pdr. S. B. M.	10-pdr. Howitzer.	7-pdr. Field Howitzer.	7-pdr. Shell Gun.	6-pdr.
Fort Georg	2	6	1	..	..	4	..	4	..	..	..	..	..	..
Battery Mamula	1	4	..	2	..	..	..	..	..	..	..	..
Robertson Tower	1	..	..	..	..	..
Battery Zupparina	4	..	..	..	..	..	..	..	..
Bentinck Tower, etc.	2	..	..	..	..	1	4	..	..	..	..
Battery Schmid	2	..	..	..	2	..	..	..	..	..	..	..	..
Wellington Tower, etc.	2	..	2	..	..	..	..	..	..	..	1	1	..	..
Battery Madonna	4	4	..	..	..	..	..	..	..	..
Fort Max	2	..	..	..	..	..	2	..
Battery Magnaremi	4	..	..	4	..	..	..	..	2
Monte Perlic	4	..	..	..	..	..	..
Battery Nadpostranje	4	2	..	..	..	..	..
Cosmo-Andrea	4	..	..	..	..	..	4
Reserve, etc.	2*	..	..	..	4*
	4	8	4	6	4	20	2	12	8	6	1	1	2	10

The Austrian pound equalled 1·3347 lb. avoirdupois.

* These were not guns, but 12-pdr. and 6-pdr. rocket-tubes.

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For the defences of Port S. Giorgio
see separate plan



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70 1911
1911 1911

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48. The garrison of the island, after the transfer on the 12th or 13th of July of the 4th Jellačić Battalion to Trieste, consisted of :

	Men.
5 Companies of Marine Infantry	1200
Company 3 of the Coast Artillery Regiment	297
Company 5 of the Coast Artillery Regiment	265
Engineers	27
Seamen	44

1833

The whole was under the command of Colonel Baron Urs de Margina, who also had at his disposal in Port St. Giorgio the steamer *Egitto*, which, however, was unarmed.

* * * * *

On July 16th the Italian fleet left Ancona for Lissa. It then consisted of the eleven ironclads *Re d'Italia* (flag), *Re di Portogallo*, *Principe Carignano*, *Maria Pia*, *Castelfidardo*, *Ancona*, *San Martino*, *Formidabile*, *Terribile*, *Palestro*, and *Varese*; the four screw frigates *Maria Adelaide*, *Gaeta*, *Duca di Genova*, and *Vittorio Emanuele*; the three corvettes *Guiscardo* and *Ettore Fieramosca* (paddle) and *San Giovanni* (screw); the two armed despatch-vessels *Messaggiere* and *Esploratore*; the two hired despatch-vessels *Flavio Gioia* and *Stella d'Italia*; the *Washington*, hospital-ship; and the *Indipendenza*, store-ship. Later in the day the three screw gunboats *Montebello*, *Vinzaglio*, and *Confienza*, and the unarmed despatch-vessel *Giglio*, joined. The screw frigate *Garibaldi*, which had remained behind to attend to her machinery, picked the fleet up on the 18th, and the long-desired ram *Affondatore* reinforced Admiral Persano on the 19th.

IV. THE ITALIAN ATTACK ON LISSA

49. As the fleet was without a trustworthy chart of Lissa, for which the commander-in-chief had applied in vain to the Ministry, Captain d'Amico, the chief of the general

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staff, was sent on board the *Messaggiere* to undertake a reconnaissance.

50. In order to conceal its real object, the fleet headed until nightfall for the island of Lussin in the Gulf of Quarnero, but on the 17th altered course, and on the 18th, at 8.30 a.m., appeared for the first time in sight from the island of Lissa, distant about twenty miles to the N.W. In the meantime, on the 17th, at sunset, the *Messaggiere*, which, under British colours (see § 16), had cruised round the island, had rejoined the flag, and Captain d'Amico had given the admiral a tolerably correct, though somewhat general, account of the works on shore. These he had sketched in on a previously prepared map, and he had reported that, according to his estimate, they were held by about 2,500 men. It does not appear that the Italians had satisfied themselves as to the whereabouts of von Tegetthoff.

51. Persano, who had originally intended to appear with the bulk of his fleet before St. Giorgio, and, while he attacked the harbour, to disembark his troops at Comisa, and to march them thence so as to take the St. Giorgio defences in the rear, now realised that a landing at Comisa would inevitably meet with difficulties. He did not, however, regard the island as a Gibraltar. On the contrary, he considered that, though the operation might take time, and might not perhaps be completed until after the arrival of the promised reinforcements for landing purposes, the capture of the place was perfectly practicable. But as he now purposed to make Manego his chief point of disembarkation, he modified his plan of attack and made his dispositions as follows :

52. a. Rear-Admiral Vacca, with the three ironclads *Principe Carignano*, *Castelfidardo*, and *Ancona*, and the paddle corvette *Guiscardo* (mounting in all 82 guns), was to attack the works in the Bay of Comisa, so as to occupy the attention of part of the garrison, and, by reducing the batteries, to afford the expeditionary corps a possibility of

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landing there in case a landing should not be effected elsewhere.

53. *b.* Vice-Admiral Albini, with the four screw frigates *Maria Adelaide*, *Gaeta*, *Duca di Genova*, and *Vittorio Emanuele*, and the screw corvette *San Giovanni* (mounting in all 206 guns), was to silence Battery Nadpostranje, which protected Porto Manego, and then disembark a landing force under Captain di Monale.

54. *c.* The bulk of the fleet, consisting of the ironclads *Re d'Italia*, *Re di Portogallo*, *Maria Pia*, *San Martino*, *Formidabile*, *Terribile*, *Varese*, and *Palestro*, the paddle corvette *Ettore Fieramosca*, and the despatch-vessel *Messaggiere* (mounting in all 173 guns), under the personal command of the admiral, was to attack the works of Port St. Giorgio from the front. The four ships *Re di Portogallo*, *Maria Pia*, *Terribile*, and *Varese*, under Captain Ribotti, as senior officer, were told off to the defences on the south and east side of the harbour mouth; while the rest, under Persano, were assigned to the defences on the north and west side.

55. *d.* The gunboat flotilla (mounting 12 guns), under Commander Sandri, was to proceed to Lesina, there cut the submarine cable, and destroy all vessels and other means of communication with the mainland.

56. *e.* The *Esploratore* was to cruise between Punta Planca (called in many charts Punta Blanca, on the mainland) and the island of St. Andrea, and the *Stella d'Italia* between St. Andrea and the island of Pelagosa, and to signal any approach of hostile ships. By this arrangement Lissa was placed about twenty miles inside the point of a right angle formed by the lines upon which the two vessels were instructed to cruise.

57. *f.* The *Indipendenza* and *Washington* were to lie off the island of Busi, about five miles to the south-west of the island of Lissa, and to await orders.

58. These dispositions were to have taken effect at day-break on the 18th, but, owing to various reasons, it was

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not until between 10 and 11 a.m. that the vessels began to reach their stations.

In my humble opinion, the plan, apart from the damning defects of the main strategy which allowed of its being employed at all, was not a sound one. Persano's idea was, with his ships, to occupy attention at two distant points while a landing was being effected at a third and intermediate point. Ships do not necessarily occupy much of the attention of the garrisons of forts of elevated command. The forts may wholly or partially neglect the ships, especially if there be no good landing-place near. But an attempted landing is a real threat. Persano, therefore, should have concentrated his heavy ships and divided his landing parties. Such was the plan which was adopted with conspicuous success more than once by the Japanese in their war with China in 1894-5. Moreover, Persano ought to have known the futility of expecting ships to deal successfully with works perched far above them.

59. Reinforced by the *Garibaldi*, which had joined at 9 a.m., and which was assigned to Albini's division, the fleet approached the island. The garrison had been forewarned by the *Messaggiere's* reconnaissance on the morning of the 17th that something was intended against it, and, a good look-out being kept, the telegraph station on Monte Hum was able, soon after sunrise, to signal that nine men-of-war, distant twenty miles, and flying no colours, were steering a N.E. course towards Lissa (see § 16). Little by little more ships were sighted, until twenty-two were counted. At 9 a.m. they were visible from Battery Magnaremi, near Comisa, and at 11 a.m. Ribotti's four ironclads, coming from the S.W., approached within gunshot. Magnaremi opened promptly, and all the ships at once hoisted Italian colours and dressed themselves with flags. The four ironclads took station to the N.W. of the battery, and opened fire upon its right flank, which contained the powder-magazine. Magnaremi at first replied with the three rifled 24-pounders of the flank attacked, but to strengthen the fire the commanding

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officer caused the guns from the left flank to be run across and fought over the top of the magazine. The enemy, surprised by the increased fire, altered his position. At the same time Vice-Admiral Albini's wooden ships appeared, took station in front, and on the left flank, of the battery, and engaged. Soon afterwards Rear-Admiral Vacca's ships also joined in the action.

60. Magnaremi, thus for a short time assailed by fourteen ships, behaved very creditably, and never slackened its fire; but the Italians had great difficulties to contend with, for the battery was not only small, but also about 500 feet above the sea-level. At first the projectiles did not reach the height; later they overshot it. Only two in all struck the scarp of the work. Whenever any ship moved within range of them, the two 6-pounder *La Hitte* guns, posted 800 feet high on Monte Perlić, were fired; but it cannot be supposed that such little weapons did much harm.

61. After the arrival of the division of Rear-Admiral Vacca, who thenceforward took charge of the action at Comisa, Albini and Ribotti drew their ships out of fire, and steered along the southern shore of the island, the former for Porto Manego, and the latter for St. Giorgio. Admiral Persano, with his ships, seems to have proceeded to St. Giorgio by way of the northern side of the island. At 11 a.m. Ribotti's division, in column of line ahead, passed Manego; and when Battery Nadpostranje fired a blank charge, the three leading vessels altered course to starboard, and made a wide bend which took them out of gunshot. The fourth vessel drew nearer, and two shotted rounds were discharged at her, but failed to hit her. Thereupon she also, without making any reply, kept away, and followed her consorts round the eastern side of the island.

62. A little later Vice-Admiral Albini's wooden ships appeared before Porto Manego and took station opposite Battery Nadpostranje. The *Maria Adelaide* and *Vittorio Emanuele* approached within range and opened with their heaviest guns, but failed to reach the work, which lay about

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500 feet above the sea. Nadpostranje replied with twenty-eight rounds, which killed two and wounded three people on board the *Maria Adelaide*.

63. In the meantime, arriving from the westward, the first of Persano's ironclads approached within range of Fort Georg at about 11 a.m. Fired at by that work, they passed it without replying, but presently stationed themselves in such a manner as almost to surround the fort, and began a furious action, in which Ribotti's division, coming in from the eastward and taking position opposite Wellington Tower and Battery Schmid, soon joined. While the ironclads, kept in continual motion, rained heavy projectiles on the forts, the latter returned the fire with steadiness. Aware of the small size of the guns on shore, the enemy often ventured within 1,500 yards of the defences. The flagship *Re d'Italia* at length placed herself within 500 yards of Battery Schmid, which, only 40 feet above the sea, tried in vain to drive off its formidable opponent, and, at about 2 p.m., Battery Schmid's magazine blew up, burying forty men in its ruins. It was the Italian flagship that, by a fortunate shot, had wrought this damage, and cheers from all the ships greeted the success. Soon after the explosion in Battery Schmid several small magazines blew up in Fort Georg and Batteries Mamula and Zupparina, and, especially at Fort Georg, occasioned much loss : but nowhere did the defence lose heart, and a continuous fire was kept up. Wellington Tower was particularly active, and Admiral Persano therefore ordered the *Maria Pia*, *San Martino*, and *Formidabile* to draw nearer to it, and to bombard it as hotly as possible.

64. While eight ironclads were thus engaged in endeavouring to silence the defences of Port St. Giorgio, the paddle corvette *Guiscardo* arrived from Comisa with a message from Rear-Admiral Vacca to the effect that, owing to the inaccessible elevation of the Austrian works there, he had ceased to bombard them, and was on his way to Porto Manego, where he purposed to support Vice-Admiral Albini.

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Vacca had, in fact, suspended his bombardment at 1 p.m. When he arrived off Manego, he discovered that Albini was inactive for reasons similar to those which had operated at Comisa.

65. A council of war, assembled in Albini's flagship, the *Maria Adelaide*, had already unanimously recognised the uselessness of continuing an engagement which, while it involved loss and damage to the wooden ships, seemed to promise no result; and it was in doubt as to the advisability of attempting to land troops. Vice-Admiral Albini despatched the screw corvette *San Giovanni* with this intelligence to Admiral Persano, from whom he requested further orders. Vacca, informed of the condition of affairs at Manego, steamed on with his division for Port St. Giorgio.

66. Admiral Persano was in no small degree surprised at the resultless nature of the operations of his subordinates, and made a communication in writing to that effect to Vice-Admiral Albini. This was, perhaps, natural, for it is difficult to imagine that the small and loftily placed works dominating the south coast of the island could have been of sufficient force to prevent a seriously attempted landing of troops, or to bar their advance towards Lissa. It is disappointing, too, to any commander-in-chief that subordinates, instead of sending for fresh orders, should, on their own responsibility, abandon the positions and duties assigned to them.

67. At the same time Persano sent orders to Albini to join the main ironclad division, and to Vacca to keep at least one ironclad before Comisa, in order to hold the local garrison in check. Shortly after the despatch had been sent off to him, however, Vacca appeared off St. Giorgio, and Persano then instructed him to direct the fire of his division simultaneously against Wellington Tower and the inner defences of the harbour. About half an hour later Albini's division also joined the fleet, and was ordered to effect a landing in Porto Karober, which lay close at hand.

68. While Albini made the necessary preparations to this

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end, every ship concentrated the greater part of her fire on Battery Madonna, Wellington Tower, and Fort Georg, which, not having been built to withstand such a storm of projectiles, suffered severely.

69. In the meantime Albini's vessels, covered by the projecting peninsula known as Scoglio Ost, took station off Novaposta in such a manner as to expose themselves as little as possible to the guns on the weak left face of Fort Georg. At 5 p.m. the fort, which, during a six hours' action, had lost one-fifth of its garrison, had had half its guns dismounted, and had been, in places, razed level with the ground, and which, at the last, had to contend with no fewer than 433 guns, ceased firing. Battery Mamula, which lay beneath the fort, and was exposed to the same destructive hail, lost its commandant, Gomola, and a third of its garrison, and was silenced soon after Fort Georg had become quiet.

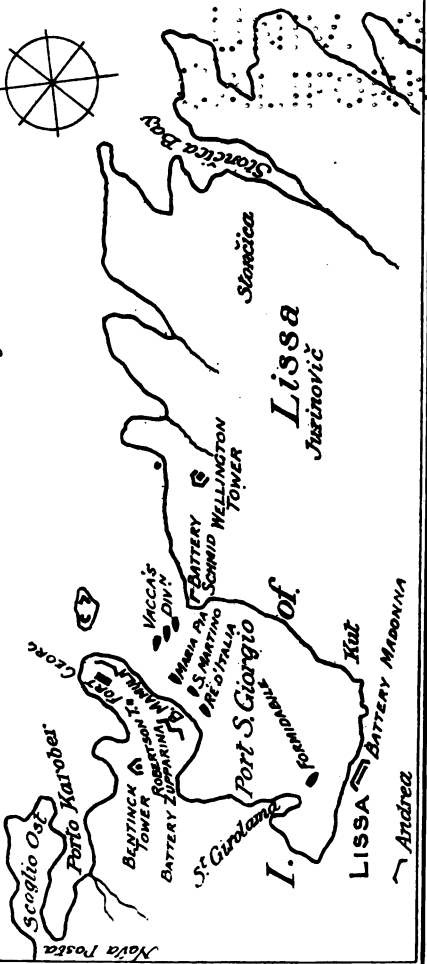
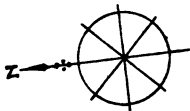
70. The Italians quickly perceived the effect of their fire, and unwisely resolved to force the harbour. In view of the fact that a landing had been ordered at Karober, there was no reason for attempting to do all the work with the ships. The *Formidabile* was ordered to plant herself in the entrance, and the *Maria Pia* and *San Martino* were directed to proceed into the bay and engage the batteries there. Some of the remaining ironclads approached the mouth of the port, and, with the paddle vessels, which up to that period had been kept at a distance but were now brought nearer, were instructed to throw their heaviest projectiles up the harbour, while the *Re d'Italia* placed herself in front of the still almost undamaged Battery Zupparina.

71. Supported by the fire of these craft, the *Formidabile*, followed by the *Maria Pia* and the *San Martino*, moved slowly and cautiously into the bay under the guns of Wellington Tower, of Bentinck Tower, and, more effective than all, of Battery Zupparina, which, paying no attention to the other vessels, concentrated all her guns upon the

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Scale of Yards



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ships that were on their way in. Arriving opposite Zupparina, the three ironclads discharged their broadsides at the battery, which, however, at a distance of barely one cable, continued steadily to direct her projectiles at their ports, and thus managed to get a 24-lb. shell into the interior of the *Formidabile*, the leader of the line. Intimidated, perhaps, by the resultant explosion, the *Formidabile* suspended her advance; and as the hitherto untouched Battery Madonna at that moment joined in the action, the three ironclads, which had already passed the line between Battery Zupparina and Battery Schmid, began to haul off.

72. When the enemy made this mad and unnecessary attempt, the hired Austrian Lloyd steamer *Egitto*, which had been placed under the orders of the commander of the island, and which seemed to be threatened, was sunk in shallow water up to the level of her upper deck, and the troops, which until then had occupied the hamlet of Lissa, were withdrawn to the heights of Andrea and Cosmo, while all the available field-guns were put in position behind the emplacements on these heights, with a view to the support of Battery Madonna.

73. Hitherto the cable to Zara had been in working order, and, by means of it, all occurrences had been reported; but after the despatch of the message announcing the catastrophe at Battery Schmid, the wire suddenly became useless. The explanation is that at 4 p.m. a gunboat belonging to Commander Sandri's flotilla (see § 55) had entered the harbour of Lesina, had taken the harbour officials on board, and, by threatening to bombard the town, had induced the local authorities to discover the position of the cable, which had been then cut.

74. After the failure of the attempt to force the port, it seemed to the Austrians as if the enemy determined to destroy Wellington Tower, so as to complete the silencing on that day of the outer defences, even if the inner ones could not be reached. At 6 p.m. all the ironclads were concentrating their fire upon the tower, which, together

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with the adjoining mortar battery, 600 feet above the sea, was exposed to a close bombardment for two hours. The defence was assisted by Bentinck Tower, and also by Battery Zupparina, whenever any vessels showed themselves within range of the guns of that work. Wellington and the mortar battery replied as warmly as they could to the enemy's more numerous projectiles, many of which flew far over the tower, and, falling, set the hillside undergrowth in flames.

75. It was after 7 p.m. when Admiral Persano, realising the necessity of giving his men some rest, collected the greater part of his fleet in line, out of gunshot, to the north of the harbour. For a time he left Vacca's division before Wellington, which, on the north side, had been somewhat seriously breached, and the safety of which was thus imperilled. Nevertheless, the howitzers on the summit of the tower, and the mortars below it, were still firing when, at about 8 o'clock, Vacca's division drew off, and with the rest of the fleet dropped anchor after sundown eight miles to the northward of the coast.

76. At 10 p.m. the gunboat flotilla from Lesina rejoined the flag, and Commander Sandri reported to the admiral that, shortly before the cable had been cut, a despatch had gone through to the effect that the Austrian fleet might be expected off Lissa. This news, which Commander Sandri declared that he had obtained from an Austrian official, appeared to Admiral Persano to have been invented in order to deter him from prosecuting his attack upon the island, and he decided that, on the following day, the 19th, although he would keep the greater part of his fleet ready to ward off any Austrian interference that might be attempted, he would resume the engagement with the works on shore, and would again endeavour to effect a landing in Porto Karober. It is clear, I think, that Persano was not a student of naval history. Had he been one, the mere fact of Lissa being near him must have recalled to him how narrowly Dubourdieu, in 1810, had escaped being caught

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by Hoste at a disadvantage while in the act of seizing part of the island. It would also have reminded him that Dubourdieu, in 1811, sailed from Ancona to capture Lissa without having first reckoned with the undefeated British squadron in the neighbouring waters, and that, in consequence, he was disgracefully beaten by Hoste with a very inferior squadron. History sometimes repeats itself with startling simplicity. The officers commanding the landing force, the artillery and the engineers, were summoned on board the flagship, and agreed with Persano's decision; but they expressed some doubt as to the success of the undertaking until reinforcements should arrive. The paddle corvette *Ettore Fieramosca*, with despatches concerning the day's work, was sent from the fleet; and in the dead of night some other vessel appears to have approached the Bay of Stončica in order to reconnoitre, for at 12 o'clock Wellington suddenly fired a shot in that direction, disturbing the numerous working parties that were repairing the sorely damaged defences. But if a ship did indeed approach, she quickly retired again, and from midnight until morning there was no further alarm.

77. During the hours of darkness Admiral Persano's timidity and infirmity of purpose tormented him with doubts whether, after all, his available troops, which all his advisers believed to be insufficient for the business, ought to be landed on the little known territory of the enemy; and finally he came to the conclusion that he would await reinforcements. On the morning of the 19th, however, he ordered Vice-Admiral Albini and Rear-Admiral Vacca to proceed with the bombardment of the works, pending the time when a landing could be made. Already he had expended a large quantity of ammunition, only to discover that the Austrians repaired damages quickly. He was now about to expend more, although he had no means of knowing when he would be able to recoup himself, or that he would be in condition to profit by the expenditure ere the defenders should again patch up their works. Unless a

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bombardment be designed to be merely punitive or destructive, it should not be carried out until circumstances permit of its being instantly followed up.

78. At 7 a.m. on the 19th the divisions of Albini and Vacca again approached Port St. Giorgio, and bombarded Fort Georg and the works near it, Albini firing, merely for practice, at Wellington Tower also. Fort Georg, Robertson Tower, Battery Mamula, and Wellington Tower, with its mortar battery, returned a few shots. The reply from Bentinck Tower and Battery Zupparina was more vigorous. At about 8 a.m. the Italians discontinued the bombardment. The ironclads steamed to the N.W.; the wooden ships proceeded along the coast towards Comisa. The latter, however, again approached St. Giorgio at 9.30 a.m., and from a position off Novaposta opened against the left face of Fort Georg, the reserve magazine of which, containing about 55 tons of powder, was very ill protected, and was in great danger. Happily for the Austrians, the firing soon slackened again, until at 11 a.m., no great damage having been done in the meanwhile, all the vessels withdrew far out of range.

79. Shortly before that hour the expected vessels, the screw frigate *Principe Umberto*, with 125 men of the Marine Infantry on board, the screw frigate *Carlo Alberto*, and the paddle corvette *Governolo*, had arrived. A little later came the ironclad turret-ram *Affondatore*.

80. The reinforcements brought by these ships raised the strength of the landing party to 2,600 men; and Admiral Persano, who no longer had any doubts as to the result, and who did not consider himself to be condemned to inaction, or even to special caution, by any vague apprehension, founded upon mere hearsay report, that the Austrian fleet might appear, thought that the time had come to renew the attack, and, partly by heavy gun-fire, partly by disembarking a strong force, to make himself master of the island.

81. He ordered, in consequence, the following arrangements:

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a. The unarmoured squadron, consisting of seven frigates and four corvettes, supported by the four gunboats, and commanded by Vice-Admiral Albini, was to land the troops at once in Porto Karober.

b. The ironclads *Terribile* and *Varese* were to proceed to Comisa and to occupy the attention of the garrisons of the batteries there.

c. The *Formidabile* was to enter the harbour of St. Giorgio and to silence such batteries there as were still capable of fighting.

d. Rear-Admiral Vacca was to support the attack of the *Formidabile* with the ironclads *Principe Carignano*, *Castelfidardo*, and *Ancona*.

e. The ironclads *Re di Portogallo* and *Palestro* were to attack Wellington Tower with their 300-pounder and 150-pounder guns.

f. The *Re d'Italia*, *San Martino*, and *Maria Pia*, under the immediate orders of the commander-in-chief, were to hinder any attempts on the part of the works on the N.W. to interfere with the landing at Karober.

82. At 4.30 p.m. the Italian fleet approached the island, and again began to engage the works at Comisa and about Port St. Giorgio. At Comisa the *Terribile* and *Varese* opened fire against the northern face of Battery Magnaremi. Presently two more ironclads, probably the *Re di Portogallo* and *Palestro*, which had been assigned to the attack on Wellington Tower, arrived, and, after 6 p.m., these were joined by six wooden ships of Albini's division. While the ironclads aimed at the battery, the wooden ships directed their fire up the bay; but the good practice of the battery and guns on Monte Perlić kept at a distance the wooden craft, the projectiles from which did not reach the shore. As on the previous day, the engagement was a resultless cannonade.

83. After half an hour's firing, Albini's six vessels and two ironclads steamed off to Karober, leaving at Comisa only the *Terribile* and *Varese*, which prolonged the useless bombardment for another two hours.

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84. Neither Magnaremi nor the guns on Monte Perlić received any considerable damage, and the obvious impotence of the enemy at Comisa enabled the greater part of the Marine Infantry there to be detached to Fort Georg and Bentinck Tower. Only an officer and forty men remained to take care of the guns on Monte Perlić.

85. More serious and bloodier work was being done in Port St. Giorgio. Soon after 4.30 p.m. the *Formidabile* began to discharge broadsides at Fort Georg, and, firing continuously, she went gallantly on until she was distant but a cable and a half from Battery Mamula. For her support Admiral Persano ordered the *Affondatore* to fire her 300-pounders up the harbour, and at 5 p.m. the admiral, with the ironclads *Re d'Italia*, *San Martino*, and *Maria Pia*, took the station which had been occupied by the *Formidabile*, and got into hot action with Bentinck, Wellington, and Zupparina. At 5.30 p.m. such of Albini's wooden ships as were off Karober also engaged, and again imperilled the reserve magazine of Fort Georg and the rear of Battery Mamula. From time to time they also sent shots into the rear of Battery Zupparina and into the valley of Somogor, where a large powder magazine had a very narrow escape from destruction, several shells falling close to it, but not bursting. Wellington, which uninterruptedly threw shells at the ships, was little damaged, but most of the other works suffered severely.

86. By this time the Italians, in addition to having destroyed Battery Schmid on the previous day, had silenced every gun in the north-western group of works comprising Fort Georg, Battery Mamula, Robertson and Bentinck Towers, and Battery Zupparina, except a 30-pounder coast howitzer in the battery at the foot of Bentinck, and three 24-pounder breech-loaders at Zupparina; and they were entitled to expect that, if their ironclads could destroy Battery Madonna at the head of the harbour, and if the troops could be disembarked at Karober and could attack the defences of St. Giorgio in the rear, the island would be

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won. While, therefore, the squadron redoubled its fire, and the flagship placed herself opposite Battery Zupparina and endeavoured to crush it by repeated broadsides, the *Formidabile*, supported, but at a distance of two miles, by Vacca's ships, the *Principe Carignano*, *Castelfidardo*, and *Ancona*, made for the centre of the bay.

87. The garrison hastily placed its reserve artillery (in the shape of a few guns from the more remote emplacements) as near as possible to the harbour, and the 10th Company of Marine Infantry lined the slope on each side of Battery Madonna, and occupied the rows of houses at Kut, immediately to the right; for the advancing vessels this time showed no hesitation, but a full determination to succeed.

88. At their head came the *Formidabile*, which, flinging a few shots at Zupparina, brought up at a distance of about three cables from Madonna, and turned her broadside against that battery. In vain did Zupparina endeavour, as on the previous day, to throw its shells through the ports of the ironclad, the rapid approach of which rendered such delicate shooting impossible. Bentinck could not bring a gun to bear; Wellington could fire only occasionally, and then had to exercise extreme caution; and Battery Madonna, with its eight guns on the open rampart, was left alone to maintain the unequal combat, for presently Zupparina was obliged exclusively to confine itself to returning the fire of the flagship. Madonna, nevertheless, steadily concentrated its fire on the *Formidabile*, which, like a wall, covered the three ships behind her, until they swung clear, whereupon they, too, began to ply the battery with broadside after broadside. The commander of the work, First Lieutenant Jauernig, of the Coast Artillery Regiment, behaved at this crisis with extraordinary coolness, and set a brilliant example of courage and energy.

89. The Austrian 30-pounder shells did but little damage when they struck the sides of the ironclads; but several of them found open ports and carried death and destruction

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between decks. The field-guns on Cosmo and Andrea, and the infantry on the slopes and in Kut, co-operated to the best of their ability. A lucky shot from a La Hitte 6-pounder on Cosmo set on fire one of the ships, and a shell from Madonna brought about a conflagration in another.

90. In the meantime the *Formidabile* carried out a brilliant and dangerous manœuvre. Dropping an anchor and letting the cable run out, she went slowly astern towards St. Girolamo, thereby not only providing more room for her consorts, but also threatening to take up a position whence she could enfilade Madonna. [See plan.] Yet scarcely had she begun this movement ere Vacca's three ships, the *Principe Carignano*, *Castelfidardo*, and *Ancona*, turned round and drew off, followed by the shells from Madonna and Wellington.

91. The *Formidabile* was left alone, exposed to the guns of Madonna and Cosmo. She was obliged to stop firing, to close her ports, to steam up to her anchor, and then to slip her cable. Twice, as she was doing this, her colours were shot away, but on each occasion new ones were promptly run up. The whole Austrian garrison witnessed the behaviour of the ironclad and could not repress its admiration. The *Formidabile's* gallant captain, Pacoret di Saint Bon, was Italian Minister of Marine from 1873 to 1876, and again from 1891 until his death in November, 1892. Not only at Lissa did he serve his country well.

92. After Vacca's withdrawal Admiral Persano realised the critical situation of the *Formidabile*, and ordered his own captain to tow her out; but before the *Re d'Italia* could execute the command, Captain di Saint Bon, with his rigging cut to pieces and with three killed and fifty-five wounded on his decks, managed to steam out of the bay, fired at as he went from every Austrian gun that could be brought to bear upon him.

93. During this part of the action most of the enemy's projectiles struck below, or passed over, Battery Madonna. Twice the roof of the barracks was set on fire; but the

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flames were as often promptly extinguished by the garrison before they could make headway. The loss in the work was astonishingly small, for it consisted only of one killed and one wounded.

94. Fortune did not favour Admiral Persano. The withdrawal of the ironclads from the inner harbour was not of vital importance. Those vessels could hardly have decided the day. The great blow was to have been struck by Vice-Admiral Albini, who was to have landed with 2,600 men, and to have taken the already well-pounded works in the rear. Had that part of the plan been carried out, the garrison must inevitably have surrendered. But Albini did not carry out his part of the scheme. A craft with troops on board approached Punta Stupiski, at the mouth of the Bay of Comisa, but was driven off by the La Hitte guns on Monte Perlić; another craft made for Stončica Bay, but withdrew after some shells had been thrown at her by Wellington Tower; and a steam-launch, towing three boats towards Porto Chiave, was repulsed by the 4th Company of Marine Infantry with rockets. The landing at Porto Karober was not seriously attempted, Vice-Admiral Albini informing his commander-in-chief that the state of the sea rendered it impossible. Persano described this as "singular," seeing that Karober opens to the north-east, and that the wind was from the south. He declared also that his ships, though more exposed, were perfectly steady. It is very difficult properly to characterise Albini's conduct during the whole period of the attack on Lissa. It is on record that there was much suggestive murmuring throughout the fleet. At 8 p.m. the admiral again collected his ships at a distance of about eight miles from the island and dropped anchor.

95. At nightfall all fighting had ceased at Lissa. Everywhere, save about Fort Georg, where the flagstaff had been shot away and could not be replaced, the Austrian flag still waved; but Fort Georg, Battery Mamula, and Robertson Tower had been effectually silenced. The scarp and

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counter-scarp of Fort Georg had been knocked to pieces, the glacis was a series of pits, and the roof of the reserve magazine had been several times pierced. The barracks had escaped serious damage, but the breastwork of the terrace on which the 18-pounders had been planted was completely razed. The open batteries had suffered most of all, and the carriages of every one of their guns were useless. Batteries Mamula and Zupparina had a few shell craters in the solid stonework of their scarps, but they would have received much worse damage had not several shells which struck near their magazines failed to burst. The hillside above Zupparina was ploughed up by the projectiles which, thrown from the direction of Novaposta, fell and burst there. A wooden building near the battery was burnt to the ground. Robertson Tower had received few projectiles. Bentinck Tower, and the scarp of the work at its base, were marked with numerous small craters. One shot struck the wall of the powder-magazine in the tower, but did not penetrate it. The right face of Battery Schmid was a mere heap of earth and stones, but the left half of the work was comparatively uninjured, though the guns were upset and their carriages smashed. Nadpostranje had not been touched. The marks of a few shells near the foot of the glacis were the only evidences that the place had undergone bombardment.

96. The number of projectiles, apart from rockets, thrown by the defence during the two days was 2,733.

97. The garrison was naturally much fatigued by its thirty-six hours' continuous exertions, for it had worked during the whole of the night of the 18th, not only in repairing the works, but also in bringing up munitions and stores, and in substituting fresh gun-carriages for those which had been damaged. By the evening of the 19th the only guns remaining fit for service were, in Zupparina one, in Bentinck two, in Wellington five, in Madonna seven, the artillery on Cosmo and in the interior of the island, and the rocket-tubes. The losses of the garrison amounted to

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twenty-four men killed and two officers and sixty-eight men wounded. Of the casualties, thirty-five occurred in Battery Schmid, twenty-four in Fort Georg, and twenty-one in Battery Mamula.

98. The Italian losses were as follows :

	On July 18th.		On July 19th.	
	Killed.	Wounded.	Killed.	Wounded.
<i>Re di Portogallo</i>	4	14	...	...
<i>Maria Pia</i>	1	6	...	...
<i>San Martino</i> . . . .	...	6	...	...
<i>Formidabile</i> . . . .	...	...	3	55
<i>Ancona</i> . . . .	...	...	6	17
<i>Palestro</i> . . . .	...	9	...	...
<i>Varese</i> . . . .	...	1	...	...
<i>Maria Adelaide</i>	2	5	...	...
<i>Governolo</i> . . . .	...	...	...	1
	—	—	—	—
	7	41	9	73

making in all a loss of 16 killed and 114 wounded. Several of the ships had been damaged, and scarcely any of them had more than two days' coal remaining on board.

99. In view of the condition of his fleet, and of the possibility, which he himself at length unwillingly admitted, that the prolonged attack on Lissa would induce the Austrian squadron to come out, Admiral Persano found himself in considerable difficulty. Either, on the following day, and before the appearance of the Austrians, he must continue the struggle, and, by means of a vigorous attack by sea and land, secure the fall of the place, or he must suspend his half-accomplished purpose, return to Ancona, fill up with coal and stores, and then act as circumstances might suggest. That night he decided in favour of the former alternative, and ordered Captain di Monale to disembark the troops on the morning of the 20th as soon as the first guns should be fired by the ironclads. But the

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morning was a dirty one, and it seemed a question whether the landing could be effected. Deputy Boggio,* of the Italian Parliament, who was the admiral's guest in the flagship, and who was always urging Persano to activity, recommended the disembarkation; but Captain d'Amico, chief of the general staff, was opposed to it, and Rear-Admiral Vacca, who visited the flagship, also favoured the abandonment of the undertaking and the return to Ancona. Admiral Persano would probably have followed this course had not a chance event occurred to sway his weak mind in the other direction.

100. Soon after sunrise on the 20th the hired paddle-vessel *Piemonte*, with a battalion of marine infantry on board, joined the fleet. This decided Persano to continue the attack on Lissa, and he at once ordered Vice-Admiral Albini to proceed with the disembarkation at Karober. The ironclads *Terribile* and *Verese* were again to grapple with the batteries in the Bay of Comisa, and the commander-in-chief himself, with the other ironclads, was once more to bombard the works in Port St. Giorgio.

101. At 8 a.m. Albini's division, with the gunboat flotilla, was busy off Porto Karober with preparations for the landing; the *Terribile* and *Verese* were getting ready to attack Comisa; the other ironclads, off the mouth of Port St. Giorgio, were awaiting the signal to move in and renew the bombardment; the *Formidabile* was transshipping her wounded to the *Washington*; and the *Re di Portogallo* and *Castelfidardo* had just intimated that their machinery was temporarily out of order, when suddenly the *Esploratore* (see § 56) steamed in fast from the direction of Punta Planca, flying the signal—"Suspicious ships in sight."

* This gentleman's position and actions recall in some degree those of Jean Bon Saint-André in the flagship of M. Villaret-Joyeuse in 1794.

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102. Admiral Persano, thus, as it were, caught with his boots off, could not for an instant be in doubt that the Austrian fleet was upon him. He made hurried preparations to meet it, though it would appear that, up to that instant, he had never formed any clear conception of how he would endeavour to do so. His long-standing and at length gratified anxiety to have the *Affondatore* with him, and his untimely transfer of his flag to her, indicate that he had an exaggerated idea of the value of the ram in action. The same is suggested by his first movements after learning of the Austrian approach. His later movements, nevertheless, seem to show that he went into action trusting mainly to the gun. These, I think, were right tactics for an officer with vastly superior gun-fire at his command, as Persano had; but one cannot feel sure that he acted in pursuance of any settled plan, principle, or conviction.

103. As he assumed the enemy to be following in the wake of the *Esploratore*, Persano ordered his whole fleet to form in line abreast towards the W.N.W.; but presently, when he made out rising smoke in the N.N.E., he changed his front so as to face in that direction. Vice-Admiral Albini was signalled not to proceed with the disembarkation; and later, when it was seen from the flagship that the Italian wooden vessels were not in motion, Persano, with the intention of hurrying them, made: "The enemy is in sight." In the meantime he ordered the corvettes *Governolo* and *Guiscardo* to tow the two ironclads which had intimated that their machinery was out of order, despatched the *Messaggiere* to recall the *Terribile* and *Varese* from before Comisa, and with the greater part of his force steamed in the direction of the foe.

104. That morning the island was shrouded in a thick mist. On shore, therefore, the movements of the Italians were misapprehended, and nothing was known of the

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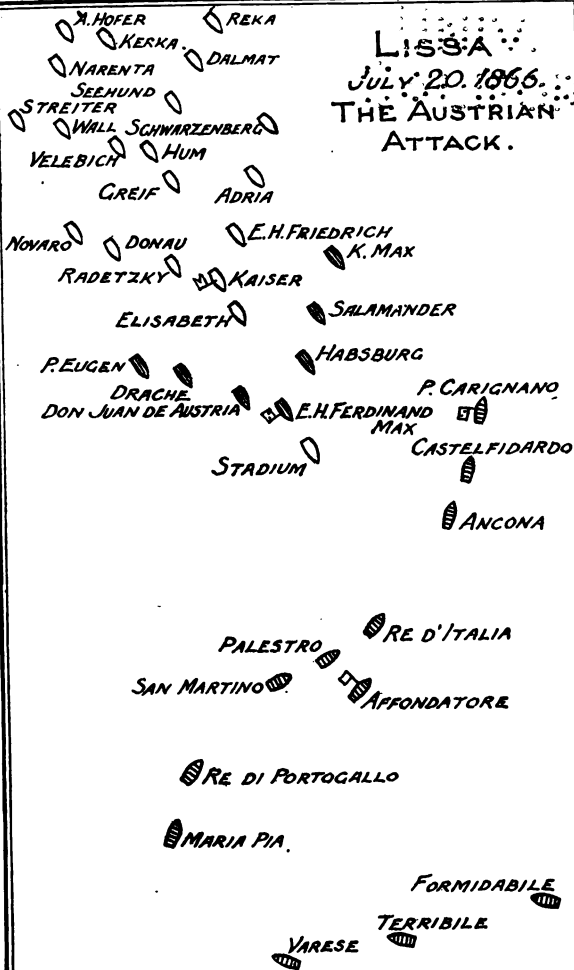
coming succour. But at about 10 a.m. the sun burst through, and the garrison, which had expected to be called upon to make a last desperate struggle, saw instead the welcome spectacle of the Italian ships hurriedly assembling on the north side of the island, and of the Austrian fleet in close and imposing formation approaching from the north-east. The sight drew a cheer from the weary defenders of Lissa, who then, in spellbound silence, awaited the playing out before their eyes of the bloody drama in which their persecutors and their saviours were about to take part.

105. The Austrian fleet, twenty-seven * pennants strong, had been under way, in company, since 1.30 on the afternoon of July 19th (see § 21). At 2.30 p.m. it passed the lighthouse of Promontore, and then headed to the south-east on a direct course for Lissa. It was formed into three divisions as follows :

I.	II.	III.
Rear-Admiral v. Tegetthoff.	Commod. v. Petz.	Command. Eberle.
To Starboard :		
<i>Don Juan de Austria,</i>	<i>Graf Radetzky,</i>	<i>Velebich,</i>
<i>Drache,</i>	<i>Donau,</i>	<i>Wall,</i>
<i>Prinz Eugen,</i>	<i>Novara,</i>	<i>Streiter,</i>
Leader :		
<i>E. H. Ferdinand Max,</i>	<i>Kaiser,</i>	<i>Hum,</i>
To Port :		
<i>Habsburg,</i>	<i>E. H. Friedrich,</i>	<i>Seehund,</i>
<i>Salamander,</i>	<i>Adria,</i>	<i>Dalmat,</i>
<i>Kaiser Max,</i>	<i>F. Schwarzenberg,</i>	<i>Reka,</i>
—	—	—
<i>K. Elisabeth,</i>	<i>Greif,</i>	<i>Narenta,</i>
	<i>Stadium,</i>	<i>Kerka,</i>
		<i>And. Hofer.</i>

The order of each division was what Professor Laughton has called "a double oblique line." This expression does

* The *Stadium*, from Pola, did not take up her station till 5 p.m.



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not very well explain it. The order, to describe it more exactly, was, so far as each division was concerned, one of column disposed quarterly to port and starboard, the senior officer's ship occupying in each case the central station or point of the wedge. The second division followed the first, and the third the second. The official Austrian description literally translated, gave the order of the fleet as "separate divisions formed in salient angle and following in wake." This was the cruising as well as the attacking formation. The description, whatever it be, applies, however, only to the first seven ships of each division. Up to the delivery of the attack, the *Stadium* proceeded the *Erzherzog Ferdinand Max* at the head of the entire fleet; the *Kaiserin Elisabeth* followed astern of the *Erzherzog Ferdinand Max*; the *Greif* followed astern of the *Kaiser*; and the *Andreas Hofer*, with the *Narenta* on her starboard, and the *Kerka* on her port bow, followed astern of the *Hum*. The small craft were thus disposed, chiefly in order to repeat signals. The above, as has been said, was the steaming as well as the fighting formation; but the instructions were to the effect that, upon the actual shock of battle taking place, the second division might be utilised according to the judgment of Commodore von Petz, and that the third division, broken up into three sub-divisions, should remain in the neighbourhood of the *mêlée*, and hold itself in readiness to support or succour the heavy wooden ships.

106. Towards evening on the 19th the sea got up somewhat under the influence of a south-easterly breeze; and as some of the ships experienced difficulty in keeping station, the speed of the fleet was reduced to five and a half knots. A little later the commander-in-chief had a conference with his flag-captain, and the officers of his staff, upon the events of the coming day, and discussed the possibility that the fleet might find the Italians already in possession of the harbour of St. Giorgio. It was decided that, in that event, as also in the event of an encounter with the enemy at sea, the ironclads should dash in and endeavour to ram, and that it

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should be their aim to pour in concentrated broadsides at the shortest possible range. My historical conclusions as to the tactics of the ram will be found elsewhere.* Of seventy-four recorded cases on which I based those conclusions, forty-eight were, or may have been, known to von Tegetthoff. He certainly overrated the powers of his weapon. At least, however, he knew what his intentions were, and he stuck to them. Moreover, it must be recollected that he was well aware of his inferiority in gun-power. He had already practised his people in the firing of concentrated broadsides. At the same conference it was wisely decided that, should the admiral fall in the action, intimation of the event to the fleet should be deferred until a fitting opportunity, and that, in the interval, the flagship should continue to lead, without reference to the seniority of her captain.

107. Towards morning on the 20th the sky became so threatening, and wind and sea increased so much, that the smaller ironclads, the batteries of which were close to the water, were obliged to close their ports. At 7 a.m. the *Kaiser Max*, which, with the *Prinz Eugen* and the *Stadium*, had been temporarily detached ahead to scout, reported "Six steamers in sight," and the flagship almost simultaneously discovered smoke to the south-east; but immediately afterwards a squall of rain came down and prevented further observation. Nothing much more inconvenient could have happened at that juncture; but von Tegetthoff did not hesitate, and pressed steadily onwards towards his goal. At about 9 a.m. the weather began to clear again; the wind went round to the north-west and the sea

* See lecture by the author, "The Ram in Action and in Accident," at the Royal United Service Institution, January 19th, 1894. The conclusions there arrived at are: that, when both ships have sea-room and are under control, ramming is somewhat more dangerous to the attacker than to the attacked; and that only when both ships are in narrow waters, but under control, or when the attacked is absolutely powerless to move or steer, is ramming likely to pay. But when the attacked has been reduced to impotence, why ram at all?

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moderated, although it still kept wet the battery-decks of the smaller ironclads, and remained rough enough to render great caution necessary in working the guns on board all the small craft during the battle which followed. When, at 10 a.m., the mist disappeared, the Austrians saw the enemy right ahead, assembling off the north coast of Lissa.

108. In quick succession the following signals were made by Rear-Admiral von Tegetthoff:

"Clear for action";

"Close order";

"Look-out vessels to their stations";

"Proceed at full speed."

And, at 10.35, came the historic signal of the day:

"Ironclads will dash at the enemy and sink him." *

Yet another signal—"This must be the Victory of Lissa" †—had been prepared, but, in consequence of the rapid closing of the two fleets, could not be made. Each signal that went up was greeted with cheers.

109. Every preparation was quickly concluded, and, steering S.S.E., the imperial fleet steamed hard for the Italian ironclads, which, hastily collected, and disposed in column of single line ahead, were approaching on a N.N.E. course.

110. The line was led by Rear-Admiral Vacca in the *Principe di Carignano*, followed by the *Castelfidardo* and *Ancona*. Then came Admiral Persano in the *Re d'Italia*, followed by the *Palestro* and *San Martino*, with the *Re di Portogallo*, *Maria Pia*, and *Varese* further astern. The *Affondatore* was somewhere on the starboard beam of the column. The *Formidabile*, no longer fit for fighting, was making for Ancona, and the *Terribile* was on her way from Comisa, and ultimately attached herself to the squadron of wooden ships, which gradually assembled off Travna Bay, and took no part in the action.

111. Such was the general situation when Admiral Persano thought it desirable to shift his flag from the

* "Panzerschiffe den Feind anrennen und zum Sinken bringen."

† "Muss Sieg von Lissa werden."

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Re d'Italia to the *Affondatore*, and to take his personal staff with him. To enable him to do so, the *Re d'Italia* was stopped, and the distance, five or six cables, that originally intervened between her and the ships of Rear-Admiral Vacca's division, was thus greatly increased ; for Vacca, who had not been warned, pursued his course. The admiral passed from one ship to the other in a launch, which, strange to say, was then turned adrift and afterwards picked up by the *Governolo*. While Persano was shifting his flag, the *Principe di Carignano*, at 10.43 a.m., opened fire at a distance of some cables upon the advancing Austrians, and her example was presently followed by all the other Italian ships. One of the first projectiles to be discharged killed Heinrich, Freiherr von Moll, captain of the *Drache*, but the ship was promptly taken in charge by *Linien-schiffs-Fähnrich* Weiprecht* until Lieutenant Matthieu could be summoned to assume the duty. What possessed Persano to change his flagship at the last moment, in such haste, and without notifying the fact by signal to his fleet, has never been fully explained. He was, however, notoriously a great believer in the offensive and defensive powers of the ram *Affondatore*. Probably his besetting infirmity of purpose had prevented him from making up his mind at an earlier moment. The ship at that time had a speed of about eleven knots, but was very unhandy, and occupied eight and a half minutes in turning a complete circle.

112. The Austrian first division, which had a little thrown forward its port ships, returned the fire, but continued its advance. Dense smoke presently enveloped both fleets, the consequence being that several Austrian ironclads, including the flagship, were unable to see the position of the Italian vessels, and passed through the wide gap between the *Ancona* and the *Re d'Italia*, thus unwittingly cutting off the head of the Italian column. As soon as this became evident, most of the vessels on the port quarter of the *Ferdinand Max* kept away to port to occupy the attention

* Afterwards commander of the Arctic discovery ship *Tegethoff*.



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of Rear-Admiral Vacca, while those on her starboard quarter kept away to starboard to engage the rest of the Italian column as it came up. The *Ferdinand Max* herself, having passed through the line, turned round to port and made for the central hostile group, which, in the meantime, had also swerved a little to port, as if with the intention of falling upon the second Austrian division—the division of heavy wooden ships. Perceiving this intention, the Austrian iron-clads on the original right turned somewhat again to protect the second division, which, with great gallantry, made for the rear portion of the Italian line. Thereupon ensued a regular mêlée, which, from moment to moment, increased, both in complication and in magnitude, and which it is impossible to describe in detail. From that time until the end of the engagement each ship manœuvred independently, striving to ram, to escape the ram, or to interpose for the protection of a threatened consort. Vessels passed one another continually within pistol-shot, emerging from one bank of obscurity to enter another, and often having barely time to discharge their concentrated broadsides into an enemy of whom they caught but vague and fleeting glimpses. The national ensigns were not distinguishable amid the rolling volumes of steam and smoke of powder and coal, and it was fortunate for both sides that all the Austrian ships were painted black and all the Italian grey. Von Tegetthoff's plans were of so simple and elementary a character, and they left so much to each captain's discretion after the first shock of action, that the Austrian commander-in-chief deliberately refrained from making any signals after the battle had begun. The smoke would have prevented signals from being taken in had he made them. But a modern engagement, fought with smokeless powder, may be, and, I think, should be, controlled from first to last from the flagships. There ought to be no mêlée in future. The work of each ship ought to be part of the general tactical scheme. All that can be said as to the conduct of the action was that, broadly and with some exceptions,

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most of the Austrian wooden ships, having turned a little to starboard, were engaged with the ironclads of the Italian rear; that the right wing and centre of the Austrian ironclad division were engaged with the ironclads of the Italian centre, and that the left wing of the Austrian ironclad division and the rear of the Austrian wooden ships were engaged with the Italian van, which, under Vacca, had circled round to port.

113. In the meantime Persano, in the *Affondatore*, found his way between the *Re d'Italia* and the *Palestro*, and appeared in the immediate rear of the first Austrian division, making repeated and vain attempts to ram now one ship and now another, and then working round to the southward.

114. Commodore von Petz, of the second Austrian division, narrowly escaped the *Affondatore*. Seeing that the Italian wooden ships were lying off Lissa, the commodore had made up his mind to get at them if possible, and, with that object, had turned to starboard, and formed the vessels of his division into something like line astern of him. Captain Ribotti, who, in the *Re di Portogallo*, commanded the Italian rear, had been inclined at first to proceed to the assistance of the Italian centre, but, awaking to the commodore's design, had turned to port, hoping to cut him off in such a manner as to leave him at the mercy of Vice-Admiral Albini's wooden division, which was apparently coming out. Von Petz, on his part, had turned to meet Ribotti's division, and had brought his seven ships, as well as the *Kaiserin Elisabeth*, into action with the *Re di Portogallo*, *Maria Pia*, *Varese*, and *San Martino*, this last having delayed her progress for a time. Such was the position of affairs in the southern part of the scene of action, when the *Affondatore* suddenly rushed out of the smoke on the *Kaiser's* starboard beam, and endeavoured to ram the wooden line-of-battle ship. Twice she charged, each time firing several 300-pounder projectiles, one of which wrought great damage, dismounting an upper-deck

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gun, putting out of action six men at the *Kaiser's* wheel, and smashing engine-room telegraph, binnacle, and much else. But the *Kaiser* was able, while eluding the shocks, to deliver a couple of concentrated broadsides, which did much damage to the *Affondatore's* top-hamper and deck, and induced the ram to sheer off. After the second attempt at ramming the two vessels scraped alongside one another, exchanging small-arm fire, which killed Linienschiffs-Fähnrich Robert Proch, who fell from one of the *Kaiser's* tops to the deck.

115. Scarcely was the wooden line-of-battle ship free from her formidable opponent ere she was threatened by the Italian ironclad *Re di Portogallo*, which, with the *Maria Pia* and *Varese*, had brought a heavy fire to bear upon the leading ships of the Austrian wooden division. Many of their projectiles flew over the *Kaiser* and struck the *Novara*, disposed to starboard, and the *Erzherzog Friedrich* and *Kaiserin Elisabeth*, disposed on the port quarter, of the two-decker. One killed Captain Erik of Klint, whose place, as commander of the *Novara*, was taken by Lieutenant Schröder; another struck the *Erzherzog Friedrich* below the water-line, causing her to make nineteen inches of water an hour. This, however, was kept in check by the steam-pumps.

116. So dense was the smoke that the *Kaiser* did not see the *Re di Portogallo* until the latter was quite close, and was approaching at full speed, with the obvious intention of ramming. The two-decker could have escaped the blow by making a quick movement of her helm, but, had she done so, she would have exposed to immediate destruction the *Kaiserin Elisabeth* and *Erzherzog Friedrich*, which were at barely a cable's distance. Trusting, therefore, to the weight and structural strength of his ship, Commodore von Petz decided to attack his armoured foe. Turning first a little to starboard, and then hard to port, he placed his enemy's broadside fairly in front of him and rammed at full speed, striking the *Re di Portogallo* on the beam

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abreast of the machinery. It was exactly 11 o'clock, seventeen minutes after the firing of the first shot by the Italians.

117. Captain Ribotti, conscious of what was intended, turned to port just before the moment of impact, and so weakened the force of the blow. Ribotti subsequently admitted that, had he not done this, he would have been sunk. The effects of the shock, of the scraping passage along the ironclad's port side, and of the Italian broadside, discharged at close quarters, were terrible for the *Kaiser*. The bowsprit and entire stem of the two-decker were torn out of her in such a way that presently the foremast toppled over, carrying away with it the funnel; and the imperial crown from the *Kaiser's* figure-head was left on the *Re di Portogallo's* deck. Nor did the ironclad escape scot-free. She lost two anchors and several boats; of four field-guns which stood on her quarter-deck, one was knocked overboard; eleven of her port-lids were smashed; and her side-armour, over a length of more than sixty feet, was displaced. In spite of her misfortunes the *Kaiser*, as the *Re di Portogallo* swung round to starboard after the collision, managed to pour in a heavy fire from the forward guns of her main battery, discharged at short range. Several of the shot struck the ironclad below her armour, and a 24-pounder shell from a rifled gun burst on her deck. This was followed up by repeated broadsides, and very soon the *Re di Portogallo* disappeared in the smoke. The two-decker was not yet, however, at the end of her adventures. Suddenly, at a distance of four cables, another ironclad, probably the *Maria Pia*, loomed up. Although the wreckage that overlay her funnel had by that time caught fire, the *Kaiser* at once began again to engage. Two Italian shells burst between decks and put part of her battery out of action; a steam-pipe was shot through; the quarter-deck was almost swept clean; and the officer in command of the quarter-deck quarters, Linienschiffs-Fähnrich Hugo Pogatschnigg, was badly hit. Nor was

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this all. The port side of the ship was on fire, and the chief engineer sent up word that the machinery could no longer be trusted, and that, owing to the condition of the funnel, he could provide but very little steam. In the meantime the fire over the wreck of the funnel grew more serious; the steering-gear was damaged by a shot; the forward batteries were no longer able to take much share in the action; and the ship was, in short, so severely mauled that her captain at length came to the conclusion that he must endeavour to withdraw her out of gunshot. He therefore headed her for Port St. Giorgio; and he was followed thither by most of the large wooden ships and by some of the gun-vessels, which had previously afforded all possible support to the two-decker, and had attracted to themselves a good many attentions from the hostile ironclads.

118. Several of these wooden craft were much damaged. The *Schwarzenberg* had received seven shots in her rigging, besides one in her foremast and one below the water-line, and leaked so badly that all her pumps had to be kept at work. The *Adria* had suffered grave injuries to her rigging and boats, had had her ensign shot away, had been thrice set on fire, and had four men badly and two men slightly wounded. Two dockyard labourers who were on board, and who were endeavouring to stop a hole which an 80-pounder shell had occasioned near the water-line, were struck by a second shell and blown to pieces, and the burning fragments caused by the explosion scattered themselves in the neighbourhood of the entrance to the magazine in such a manner that only by the coolness of the chief gunner, who promptly opened all the valves, was a terrible disaster averted. As for the *Novara*, besides her captain, she lost six killed and twenty wounded.

119. While the rear of the Italian line had thus unexpectedly been held in check by the Austrian wooden vessels, the two leading ironclads under Rear-Admiral Vacca, after Tegetthoff had broken through, had pursued

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their course, turning, however, somewhat to port, and so removing themselves from the Italian centre, which, thus in a measure isolated, was assailed by the main strength of the Austrian ironclad division, and found itself in a critical position.

120. Tegetthoff's flagship, the *Erzherzog Ferdinand Max*, had tried to ram two hostile ironclads, but had struck them at so sharp an angle as to produce no effect of importance. Upon the second occasion, however, the blow, delivered on the starboard quarter, brought down the enemy's mizzen topmast and gaff, the latter, with a gigantic tricolour attached to it, falling on the flagship's forecastle. Carcovich, a quartermaster, ran forward, and, after one ineffectual attempt, tore or cut the flag clear, and, under a heavy small-arm fire, made it fast to a stanchion, where it remained.

121. Since, according to the Italian reports, no vessel that survived the day was rammed save the *Re di Portogallo*, it must be concluded that the two ships which were rammed were the *Re d'Italia* and the *Palestro*. That it was the *Palestro* which thus lost her flag to the *Erzherzog Ferdinand Max* is rendered the more probable by the fact that the gunboat *Reka* afterwards saw the *Palestro* when on fire, and noticed that she had no ensign at her peak.

122. The *Re d'Italia*, the leading ship of the Italian centre, being supposed to be still Persano's flagship, was a natural object of general attack, and, immediately after Tegetthoff had broken the line, was surrounded by four Austrian ironclads, among which was the *Erzherzog Ferdinand Max*. The *Palestro* endeavoured to proceed to the assistance of the sorely pressed vessel; but two Austrian ironclads opened a heavy fire upon her and barred her way. The *Palestro's* iron sides effectively resisted the Austrian shot, and little harm had been done to the ship by the collision with the flagship of Tegetthoff. A shell, however, passed through her unarmoured stern, and burst in the ward-room close to the magazine. It at once created a conflagration, and obliged the *Palestro* to go about to port in order to get

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out of action, and to have leisure to repress the flames. In the meantime the steering-gear of the *Re d'Italia* seems to have been damaged, for the vessel lay isolated in the midst of several Austrian ironclads and did not manœuvre. The *Palestro* went away to the northwards, and the *San Martino* withdrew towards the south-west, followed apparently by the *Don Juan de Austria*, and later by the *Kaiser Max*. It was then that the most dreadful and dramatic episode of the battle took place.

123. Rear-Admiral von Tegetthoff, gazing down from the bridge, where he stood surrounded by his staff, and betrayed a coolness to which even Italian writers have paid chivalrous tribute, could not but note the condition of the *Re d'Italia*. That unfortunate ship, no longer obeying her helm, could only move straight ahead or straight astern. She was firing both broadsides; she had crowds of men ready on deck to board any opponent who might give her the opportunity; she was fighting with the courage of desperation.

124. Captain Freiherr von Sterneck, of the *Erzherzog Ferdinand Max*, fought his ship from half-way up the mizzen shrouds,* and ordered her to be headed at full speed for the port side of the *Re d'Italia*. When about two-thirds of a cable from her, he ordered his engines to be stopped. The *Re d'Italia* made every possible endeavour to go ahead, so as to avoid or at least diminish the effect of the shock; but an Austrian ironclad barred the way. Instead of trying to ram the enemy ahead of her, the *Re d'Italia* attempted to go at full speed astern; but at the very moment when the ship had ceased to forge ahead and had not begun to feel the effect of the reversed screw, and when, in consequence, she was practically stationary, she was struck full amidships by the Austrian flagship, which flung at her a weight of about 5,000 tons at a speed of eleven and a half knots. The blow was dealt over the engine-room. Armour, backing, frames, beams, and planking all crumpled inwards before that mighty thrust. The hole that was made was estimated to

* Compare Farragut at Mobile Bay.

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have an opening 300 square feet in extent, half of it being below the water-line. Below decks in the *Erzherzog Ferdinand Max*, where no one expected the shock, the people were thrown violently forward. The chief engineer, in pursuit of previous instructions, immediately reversed his engines, and withdrawing the fatal ram, which had penetrated to a depth of six and a half feet, freed the flagship from her mortally injured enemy.

125. The *Re d'Italia*, under the force of the blow, heeled over slowly about twenty-five degrees to starboard, swung back rather suddenly to port, plunging her huge wound into the waves, and then sank almost instantly. For the victors it was a sublime yet shocking moment, when the enemy's deck, crowded with human beings who cheered and fired to the last, tilted up, till men, guns, boats, and gear slid down in struggling confusion, and when a brave and splendid ship disappeared for ever in 200 fathoms of water.

126. As the ship sank, some of her people were observed to hurry aft, as if to haul down her ensign; but two gallant officers, Signors Razetti and Del Santo, forcibly prevented them, and the ship went to the bottom with the Italian flag still flying. This was at 11.20 a.m., only thirty-seven minutes after the action had begun.

127. Upon the turbulent water where the *Re d'Italia* had floated there were only some fragments of wreck and a few struggling survivors, who, having jumped clear of the vessel, had not been sucked down with her. For some seconds the victors looked in awed silence at the scene. Then a tumultuous hurrah went up from every Austrian ship within sight.

128. The collision had bent in the plates on the *Ferdinand Max's* bows, and, sheering off the heads of a few rivets, had given rise to a slight leak. But in no other respect was the Austrian flagship injured. Von Tegetthoff's first care was to save his late enemies, some of whom clung to spars and floating débris, while others supported themselves by swimming. One of the starboard boats, the only one which

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would float, was ordered to be lowered ; but ere she could be put into the water an Italian ironclad, clearly intent upon ramming, appeared upon the flagship's port quarter. The enemy was probably the *Ancona*. Freiherr von Sterneck with great composure avoided the blow, but the two ships passed one another so closely that the people in the *Ferdinand Max's* port battery were unable to get the rammers into the muzzles of their guns. The enemy fired several rounds, the smoke of which entered the *Ferdinand Max's* ports ; but there were no signs of any projectiles, and it was supposed that the guns were not shotted. The captain of the *Ancona* in his report practically admitted that they were not, and ascribed the omission to the fact that his guns used sometimes iron and sometimes steel projectiles. As the choice of projectiles, in view of the work to be done, would be naturally delayed until the last minute, it is possible that, in the excitement of action, the projectile was altogether forgotten, the guns being, of course, muzzle-loaders, and the powder being put in first. It has been alleged, moreover, that after the action some Italian guns were found to have been loaded with the powder on top of the shot. No doubt many of the guns' crews lost their heads completely. On both sides officers afterwards complained privately that only with difficulty had they kept their people working in the batteries.

129. The *Ferdinand Max* and the *Ancona* separated without further hostile action. Other Austrian ships, in addition to the flagship, made repeated efforts to pick up the survivors of the *Re d'Italia*, but were as often attacked and obliged to consult their own safety. The *Kaiserin Elisabeth*, for example, which was close to the flagship, and to the northward of the *Re d'Italia* at the moment when the latter foundered, did her best ; but an Italian ironclad got across her stern, and, firing briskly, caused her some loss, and drove her off. The screw schooners *Kerka* and *Narenta*, which, owing to their bad speed, were, at the opening of the action, six cables behind their division, but which followed

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into the fray, also approached the scene of the catastrophe; but while they were about to render help, they found themselves within range of two hostile ironclads, one of which was the burning *Palestro*, and were forced to withdraw.

130. Meanwhile, the *Ancona* headed for the *Re di Portogallo*, which was much pressed by several Austrian ships; and on the way she came into accidental collision with the *Varese*, which not only had been the last of her division, but also had remained somewhat astern of station, and was now likewise pressing on to succour the *Re di Portogallo*. The *Varese* had an armour-plate dislodged, and both ships suffered some damage. Moreover, their rigging became so entangled that an appreciable time elapsed ere they could get free again. The *Re di Portogallo*, soon after her encounter with the *Kaiser*, had turned to port to clear the Austrian wooden ships, and then to starboard to escape two hostile ironclads, and, separated for a period from the ships of her division, had the very greatest difficulty in avoiding her opponents. While, nevertheless, she was engaged in repairing damages, and was still in a most precarious situation, she made an effort to ram an Austrian wooden frigate, and so to make a way of escape for herself. Captain Ribotti believed this frigate to be the *Novara*, but she was undoubtedly the *Schwarzenberg*, which received the *Re di Portogallo* with a concentrated broadside, and wrought fresh injuries both to the masts and to the hull of the ironclad. At last, however, Ribotti freed himself, and joined Rear-Admiral Vacca, who just previously had made the signal: "Form column of line ahead, without reference to the order of the ships."

131. The *Maria Pia*, which also belonged to the rear or Ribotti's division, and which, like the *Varese*, had desired to succour the *Re di Portogallo*, had been obliged to describe a wide circle in order to afford sea-room to the entangled *Ancona* and *Varese*, and had thereby lost so much time that her help became unnecessary. She then attempted to bar

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the way to two Austrian ironclads which appeared to be making for the Italian wooden division, but she was attacked by two other Austrian ships. She tried to ram one of these, which crossed her bows, but the Austrian turned quickly to starboard, receiving, however, a full broadside and a volley of musketry from the Italian as the latter swept past. The *Maria Pia* thereupon headed for her ironclad consorts. These were little by little withdrawing to the westward out of action. It was probably at that time that the *Maria Pia* and *San Martino* collided. The latter received some damage forward, twisted her ram, bent or displaced several of her armour-plates, and sprang a slight leak. The former lost one armour-plate. This was the final episode of the action, and at 12.10 p.m. Rear-Admiral von Tegetthoff signalled to his fleet to close upon the flagship.

132. At the beginning of the action the two leading ships, the *Principe di Carignano* and the *Castelfidardo*, of the van or Vacca's division, exchanged a few shots as they passed with the *Kaiser Max*, *Habsburg*, and *Salamander*. In the last named a projectile, one of the first, struck the conning-tower, and, the splinters entering, wounded the captain, the signal-cadet, and the signal-quartermaster, and smashed the conning-tower binnacle. Another projectile shattered the mizzen-top and did further damage. In the course of the action, and towards the conclusion of it, the Italian van placed itself in the rear of the Austrian wooden vessels. With the object of breaking through these and joining Faa di Bruno's and Ribotti's divisions, the *Carignano* and *Castelfidardo* altered course to the southward ; but the well-directed fire of the closely grouped ships of the Austrian rear kept the foe in check, and not only prevented him from venturing to ram any of the wooden craft, but also rendered him unable to do more than make an ill-directed return. In this long-range action the Austrian wooden frigates *Donau*, *Radetzky*, and *Schwarzenberg* took part with their pivot-guns, and were well supported by several ships of the

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third or gunboat division, although the latter, owing to the tumbling sea, found it exceedingly difficult to use their guns, some of which jumped from their mountings, or broke from their racers, and took charge. Among these craft were the gunboats *Hum*, *Wall*, and *Streiter*, and the paddle-vessel *Andreas Hofer*, which last had attached herself to the second division, and kept in its wake. The *Reka* and *Seehund* had got up nearly with the leaders of the wooden division, while the *Dalmat* and *Velebich* had dropped somewhat astern of it.

133. While the Austrian ironclads were closing on the flagship, great part of the wooden squadron was already on its way to Port St. Giorgio. The two-decker *Kaiser*, which, owing to the damage inflicted upon her, as has been related, had been obliged to retire from action, was accompanied out of gunshot by the *Erzherzog Friedrich*, the *Seehund*, and the *Reka*. Next came the frigates *Schwarzenberg*, *Radetzky*, *Adria*, and *Donau*, and the gunboats *Hum*, *Wall*, and *Streiter*, and astern of them the little *Andreas Hofer*. On her way the *Kaiser* did all that lay in her power to extinguish the fire that was still raging in her; and she was thus engaged when suddenly, on her starboard side, there appeared the *Affondatore*, which, after the vain attempt upon the two-decker, had described a big circle to port, repaired damage as well as possible, and, steering along the north coast of the island, now threatened to bar the *Kaiser's* progress. Thrice she seemed to start ahead with the intention of ramming the *Kaiser*, which, in spite of her injuries, as often turned at bay, and, from amid the smoke and flame which covered her, fired broadside after broadside and kept off the foe. She was nobly supported, at this crisis, by the wooden ships astern of her, and later by the ironclads *Don Juan* and *Prinz Eugen*, all of which threw a perfect hail of projectiles upon the Italian ram, undeterred by the approach of the *Principe di Carignano*, *Castelfidardo*, *Re di Portogallo*, *Ancona*, and *Varese*, which, in response to Vacca's signal, kept up a distant and resultless fire.

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Upon the third occasion the *Affondatore*, at high speed, steamed to within one cable of the *Kaiser*, and then suddenly fell away to starboard. She still, however, for some time, followed up the two-decker; but at last, with a damaged anchor, several shot through her deck, and a fire in her lower hold, turned to join the Italian wooden ships. The *Kaiser* returned her last shot at a distance of ten cables.

134. According to Italian accounts, Persano had personally directed the commander of the *Affondatore*, Captain Martini, to ram the *Kaiser*; but when the ships were in close proximity, and only the order "Starboard your helm" was needed to produce the fatal result, Persano gave the word "Port your helm," and stuck to it in spite of the representations of those around him. Persano himself declared that, chancing at that moment to observe for the first time how terribly the two-decker had suffered, he had not deemed it proper further to concern himself with so helpless a foe.

135. At about the same time the *Don Juan de Austria* received from the *Affondatore*, which had unceasingly fired her 300-pounders, a shot that struck an armour-plate between two ports, a second on the armour below the water-line, and a third that shattered the butt of the bowsprit.

136. The two-decker, freed from the presence of her dangerous enemy, continued her course, uninterfered with, and reached Port St. Giorgio at 1.15 p.m., anchoring across the harbour mouth. The gunboat *Reka* followed her in; but seeing the *Kaiser* signal, "There is hope of mastering the fire," she remained for only half an hour. The other wooden ships, which, after the departure of the *Affondatore*, considered that the *Kaiser's* peril was over, again headed to the northward, led by the *Schwarzenberg*, to rejoin the ironclad division. This (in consequence of Tegetthoff's signal made at 12.20 p.m.: "Follow in wake of the admiral") met the northward-steering squadron

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half-way ; and, the fleet being thus reassembled, the commander-in-chief as quickly as possible reformed it in three columns of divisions in line ahead disposed to starboard, the ironclad division taking the post of honour next the enemy. The course steered was north-east. The new formation was such as permitted of the original wedge-like formation being quickly resumed in case of need. While it was being carried out, several of the Italian wooden ships of Vice-Admiral Albini's division opened a lively, but distant and useless fire.

137. As soon as the *Affondatore* had withdrawn out of gunshot of the Austrian wooden ships, Admiral Persano hastened to that portion of his force which was still engaged in moving along the north-west coast of Lissa. His intention was to order it to continue the engagement. Vice-Admiral Albini declared that thrice during the battle he had endeavoured to approach the scene of action, but on each occasion had been prevented by Austrian ironclads. Of the Austrian ships a few, at about 11 o'clock, had noticed a forward movement of the Italian wooden vessels, which, however, had quickly retired again. The fact is, that the whole of this squadron (with the ironclad *Terribile*,* which clung to it), and its 400 guns, remained idle spectators of the action from beginning to end, and, after the conclusion of the fight, did nothing but fire a few ineffective rounds at a great range. Albini's passive attitude cannot but have had influence upon the fortunes of the Italian fleet on that day, and is the less justifiable, seeing that the behaviour of the Austrian wooden division, the almost worthless paddle-vessels of which took gallant part in the fight, invited him to fling aside hesitation, and should have spurred him to emulation. It must be admitted that Persano displayed little more ineptitude than some of his subordinates.

138. Persano was certainly very angry at the continued inactivity of his wooden division, and approached it at full

* Her captain was afterwards tried for misconduct.

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speed with the signals flying, "Attacate il nemico appena a portata," "Closer action," and "Surround the enemy's rear," by which he meant those Austrian ironclads which had had the last engagement with the *Maria Pia*, and, having been detained by it, were still seeking to rejoin their consorts. Persano also signalled, "The fleet, with individual freedom of movement and manœuvre, will go in chase of the enemy,"* and, in the *Affondatore*, he led the way against the main body of Austrian wooden ships which had just then quitted the *Kaiser* in order to join the ironclads. Persano hoped, by a quick and dashing onset, to prevent the junction; but once more his wooden division left him in the lurch, although the *Principe Umberto* showed a good example, and, steaming after the admiral, opened a brisk fire. Of the Italian ironclads only the *Re di Portogallo* obeyed the signal.

139. Persano, supposing that his signal was not understood, steamed down the whole line of the fleet with it flying; but the golden moment had passed, for the Austrian squadron, complete save for the *Kaiser* and the *Reka*, had assembled, and, already formed in three columns, was steaming north-east.

140. Rear-Admiral von Tegetthoff, who, while his ships were closing around him, saw the burning *Palestro*, at a distance of about three-quarters of a mile to the north-west, making in the direction of the Italian wooden squadron, had ordered the *Kaiser Max*, at 1 p.m., to cut her off. The flagship herself had also proceeded towards the enemy, and had been followed by other vessels. But the *Palestro*, whose engines were still in good order, was not to be caught, and had been presently taken in tow by the paddle corvette *Governolo*, which had been specially detached for the purpose by Albin. Escorted by the *Indipendenza*, she had closed her consorts, one or two of which, including the *Affondatore*, had meanwhile advanced to protect her.

141. The Italian fleet subsequently altered course more

* Equivalent to the signal for a general chase.

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than once, but the general direction of its movement was to the W.N.W. A few rounds were fired by each side, but the range steadily increased. At one moment it appeared as if the Italians, headed by the flagship, would again advance to the attack. The motions which gave rise to this impression upon the minds of those in the Austrian fleet were probably occasioned by the inclination of a few Italian vessels to act upon Persano's signals: "Closer action," and "The admiral reminds the fleet that the ship which is not in action is not in her station." But, ere long, even Persano was obliged to surrender all idea of renewing the engagement. He learnt of the sinking of the *Re d'Italia*; he saw the critical situation of the *Palestro*; and the *San Martino* apprised him by signal that, owing to the extent of her damages, she could not keep station. The Italians finally headed for the channel between Lissa and Busi, and hostilities thereupon ceased.

142. While, therefore, the Austrian fleet, in order of battle, and complete except as regards the *Kaiser* and the *Reka*, which were in Port St. Giorgio, occupied the scene of action, the Italian fleet retired to the westward of Lissa. To follow up the retreating foe was not within the province of Admiral von Tegetthoff. His inferiority in guns forbade him to enter upon a long-range engagement, and the very unequal speed of his ships also prevented him from entertaining the idea. Moreover, the enemy still possessed so many intact fighting units that it would have been sheer temerity on the part of the Austrians to imperil the results which had been gained already.

143. Since everything pointed to the fact that the Italians were as little disposed as he was to reopen the question on that day, Tegetthoff altered course to the south-east, and, at about 2 p.m., directed the gunboats to proceed ahead to Port St. Giorgio. The heavy wooden division followed them; then the ironclad division; and, last of all, the flagship, which reached the harbour shortly before sunset, and was greeted with hearty cheers from the assembled fleet. While

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the gunboats were still under way, a violent explosion was heard, and those who were looking in the direction of the Italian fleet saw the *Palestro* go into the air.

144. The commander of that vessel, Commander Alfredo Capellini, who had been invited by the convoying craft, *Governolo* and *Indipendenza*, as well as by Rear-Admiral Vacca, to take advantage of the boats which were sent to him, and to place his ship's company beyond the reach of danger, considered it as a point of honour, in spite of the ever-increasing risk, not to quit the vessel, and determinedly refused the proffered assistance. "Those who wish to go, may go," he said ; "for my part, I remain." Following the example of their chief, the entire ship's company stuck to the *Palestro*, only the sick and wounded being removed to the *Governolo*. Every man went to his post and worked with the greatest devotion to combat the fire. The powder-magazine was flooded, and danger from that quarter seemed no longer to be apprehended ; but the conflagration reached a compartment where, during the action, a number of filled shells had been placed. A great blaze of flame shot out from the ports on each broadside, a deafening report followed, wreckage and mangled corpses flew high in the air, and in an instant all was swallowed up by the waves. It was 2.30 p.m. when, in sight of both fleets, this final act closed the tragedy of the day.

A statement of the number of projectiles fired and received, and of the losses on the Austrian side, is given in the table over-leaf. To this it may be added that the officers killed were : Captain Heinrich, Freiherr von Moll, commanding the *Drache* ; Captain Erik of Klint, commanding the *Novara* ; and Ensign Robert Proch, of the *Kaiser* ; and that the officers wounded were : Captains Anton von Petz (*Kaiser*) and Carl Kern (*Salamander*) ; Lieutenants Julius Steiskal, Hermann, Freiherr von Spaun, Joseph Frank, and Franz, Freiherr von Minutillo ; Ensigns Anton Kloss, Ferdinand Gebhardt, and Hugo Pogatschnigg ; Naval Cadets Ignaz Mader, Eduard Hanslik, August Süss, and Victor

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Sambucchi ; and acting Naval Cadets Adolf Hlouschek and Stefan, Ritter von Doyml.

	Shots fired.	Shots received.	Killed.			Wounded.					Total killed and wounded.
			Officers.	Men.	Total.	Officers.		Men.		Total.	
						Slightly.	Badly.	Slightly.	Badly.		
Ferdinand Max	156	42	..	1	1	1	1	4	1	7	8
Habsburg	170	38	..	..	..	..	..	..	..	..	..
Kaiser Max	217	28	..	..	..	..	..	2	1	3	3
Don Juan de Austria ..	277	41	..	1	1	..	..	4	..	4	5
Prinz Eugen	234	21	..	..	..	..	..	1	..	1	1
Brache	121	17	1	..	1	1	..	..	6	6	7
Salamander	211	35	..	..	..	..	2	7	..	9	9
Kaiser	860	80	1	23	24	2	3	30	31	75	99
Novara	342	47	1	6	7	4	..	13	3	20	27
Fürst Schwarzenberg ..	286	9	..	..	..	..	1	..	1	2	2
Graf Radetzky	289	..	..	..	..	..	..	..	..	..	..
Adria	221	27	..	2	2	..	..	2	3	5	7
Donau	326	7	..	1	1	..	..	..	2	2	3
Erzherzog Friedrich ..	250	9	..	..	..	..	..	..	..	..	..
Hum.	48	3	..	..	..	..	..	..	..	..	..
Dalmat	75	1	..	..	..	..	..	..	..	..	..
Velebich	93	..	..	..	..	..	..	..	..	..	..
Wall	32	..	..	..	..	..	..	..	..	..	..
Seehund	51	..	..	..	..	..	..	..	..	..	..
Streiter	55	..	..	..	..	..	..	..	..	..	..
Reka.	92	..	..	..	..	..	..	..	..	..	..
Korka	16	..	..	..	..	..	..	..	..	..	..
Narenta	17	..	..	..	..	..	..	..	..	..	..
Kaiserin Elisabeth ..	71	4	..	1	1	..	..	2	2	4	5
Greif.	6	..	..	..	..	..	..	..	..	..	..
Andreas Hofer	51	3	..	..	..	..	..	..	..	..	..
Stadium .. .. .	..	..	..	..	..	..	..	..	..	..	..
	4,556	412	3	35	38	8	7	71	52	138	176

145. The damages received by the Austrian ships were not of a very important character. Except the two-decker, the clearing and refitting of which necessitated twenty-four hours' work, the entire fleet remained fit for action. Engines and steering-gear were in good order ; only four guns were dismantled ; the Styrian armour-plates had behaved well, and, save for a few dents, were as good as ever. One of the plates in the bow of the *Erzherzog Ferdinand Max* was bent in by the force of the collision with the *Re d'Italia* ; in the *Don Juan* a plate between two ports, and another below the water-line, were injured by 300-pounder projectiles. Of the wooden ships, the

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Schwarzenberg and the *Erzherzog Friedrich* were leaky and made water ; but this could be kept under by the pumps, and did not detract materially from the fitness of the vessels for further work. In several ships fires had been occasioned by bursting shells, but all these had been extinguished promptly. The greatest sufferer from fire was the *Adria*.

146. Of the Italian fleet, the *Re d'Italia* and the *Palestro* had disappeared. The *San Martino* in the battle, and the *Formidabile* during the attack on Lissa, were rendered unfit for action. All the remaining ironclads suffered more or less damage, the *Re di Portogallo* especially. Only the *Terribile* and the inactive wooden ships were uninjured. The *Maria Pia* had a plate smashed and a projectile sticking in her armour. She had also been struck by several shot, principally abaft, where she had been set on fire, and her magazine had been imperilled. The *San Martino* had a projectile in her armour, another penetrated a plate nearly four inches thick and half the backing, and several plates were damaged. The ram was twisted to the left in consequence of the collision with the *Maria Pia* ; and, although the ship was at once repaired, she continued to make water as late as September. She had been badly mauled ; several shells had burst in her ; and two fires which had broken out in her had been quenched with difficulty. Seven plates were removed from their places. In the *Castelfidardo* a shell, bursting in the captain's cabin, did much damage and occasioned a fire. The *Ancona* lost several plates. A shell burst between decks ; another put fourteen men out of action ; all the spars and rigging were rendered useless. The *Carignano* had a plate penetrated, and a shell burst beneath the conning-tower. The *Varese* had only slight injuries. The *Re di Portogallo* suffered greatly. Sixty feet of armour was destroyed by the collision with the *Kaiser*. The ship had no plates penetrated, but many bent and forced inwards. The *Maria Adelaide* received fourteen projectiles in her hull ; a shell,

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entering under water, penetrated to a coal-bunker, but failed to kindle a fire there; and the masts and rigging were much knocked about.

147. The losses of men were also serious. As has been said already, the Italians had 15 killed and 114 wounded in the attack on Lissa. Of the 600 people on board the *Re d'Italia*, 9 officers and 159 men were saved, 116 by the *Principe Umberto*, and the rest by the *Messaggiere*, *Stella d'Italia*, and *Affondatore*, while 18 reached Lissa by swimming. Of the 250 people on board the *Palestro* only 1 officer and 19 men were saved. The other losses of the Italian fleet amounted, however, to no more than 5 killed and 39 wounded. I can find no particulars of the expenditure of ammunition.

148. The Austrian dead and badly wounded were landed at Lissa on the evening of the 20th, and the necessary work on the ships was begun without delay. After sunset the iron-clads *Habsburg* and *Prinz Eugen*, and the gunboats *Dalmat* and *Velebich*, cruised for the night off the port. Next morning at 3.30 a.m. the whole fleet, including even the *Kaiser*, which had managed to repair her funnel overnight, had steam up, and was in a condition to proceed to sea; but at break of day the signal-station on Monte Hum reported that the enemy was no longer in sight, and that some smoke, which at first had been visible to the W.N.W., at a great distance, soon altogether disappeared. The Italian fleet, indeed, after cruising on and off on the evening of the 20th, had quitted the waters of the island at 10.30 p.m. and made for Ancona, where it arrived on the morning of the 21st. On August 6th, owing, it is said, to the damages which she had received in the action, the *Affondatore* sank during a storm there. The Italian gunboats had been despatched to Manfredonia, in tow of the *Washington* and the *Guiscardo*. At 2 p.m. on the 21st the Austrian Lloyd steamer *Venezia*, from Zara, reached Lissa, bringing from the Emperor Franz Josef a telegram thanking the officers and men of the fleet, and apprising von Tegetthoff of his

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promotion to the rank of Vice-Admiral. At once he hoisted his flag at the fore, amid general cheering. That evening the dead were buried, the badly wounded were sent off in the *Venezia* to Spalato and Zara, and the *Kaiserin Elisabeth* and *Dalmat*, which had been sent out to look for any Italians who might be still floating near the scene of action, returned, bringing only boats and wreckage. At 8.30 p.m. the whole fleet, except the *Narenta* and the *Kerka*, which were left under the orders of the commandant of the island, weighed, took up the old wedge-like formation, and put to sea to the north-west. In the evening of the 22nd it once more anchored in the roadstead of Fasana.

149. A crushing defeat had not been inflicted, and there were no prizes to grace the triumph of the victor; but the remarkable results which, with inferior forces, had been attained gave the Austrian navy a heritage of splendid tradition, and shed immortal glory on the name of Tegetthoff. The victorious admiral did not, I think, display tactical qualities of any exceptional brilliancy; for his attacking formation is never likely to be imitated; but he betrayed an intelligent grasp of the ruling principles of naval strategy and a consistent firmness and strength of character which cannot but favourably have influenced all who served under him. ✓

II. THE WAR BETWEEN CHILI AND PERU, 1879-81

A WAR which produced, on the one side, so heroic a champion as Arturo Prat, and, on the other, so noble a paladin as Miguel Grau, would deserve to be held in remembrance, even if it had no claims to be studied by the strategist and tactician. The naval war, however, which, early in 1879, broke out between Chili and Peru, the latter supporting Bolivia, is an instructive one from all points of view. Besides emphasising in a very forcible manner the influence of sea power upon history, it demonstrated in a startling way the immense importance, especially in armoured craft, of superior speed. It also set forth some significant, though, I fear, still neglected lessons concerning the potentialities and limitations of the ram in action ; and it illustrated the difficulties and dangers surrounding the naval power which, well provided in many respects at the beginning of a campaign, is yet without adequate docking and repairing facilities, and can coal its ships only at inconvenient points.

The authorities upon which I have principally drawn for the following account of this interesting war are :

a. "The War on the Pacific Coast of South America, between Chile and the Allied Republics of Peru and Bolivia, 1879-81." By Lieutenant Theodorus B. M. Mason, United States Navy (United States Office of Naval Intelligence. War Series, No. II.). This is compiled from the writer's observations, from reports by Lieutenant-Commanders D. W. Mullan and J. J. Brice, and Lieutenants J. B. Briggs and N. T. Houston, and from notes by Lieutenant-Commanders J. E. Craig and M. B. Buford, and Lieutenants

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J. F. Meigs, R. R. Ingersoll, and R. P. Rodgers, U.S.N. (Washington, 1883).

b. "Mémoire du Ministre de la Guerre du Chili sur la Guerre Chilo-Peruvienne." Translated into French by M. Châteauminis, capitaine de frégate, French Navy. 1882.

c. "Souvenirs d'une Mission à l'Armée Chilienne." By M. Le Léon, lieutenant de vaisseau, French Navy. 1882.

d. Personal narratives of several officers engaged, notably on board the *Huascar*.

e. "Histoire de la Guerre du Pacifique." By Diego Barros Arana.

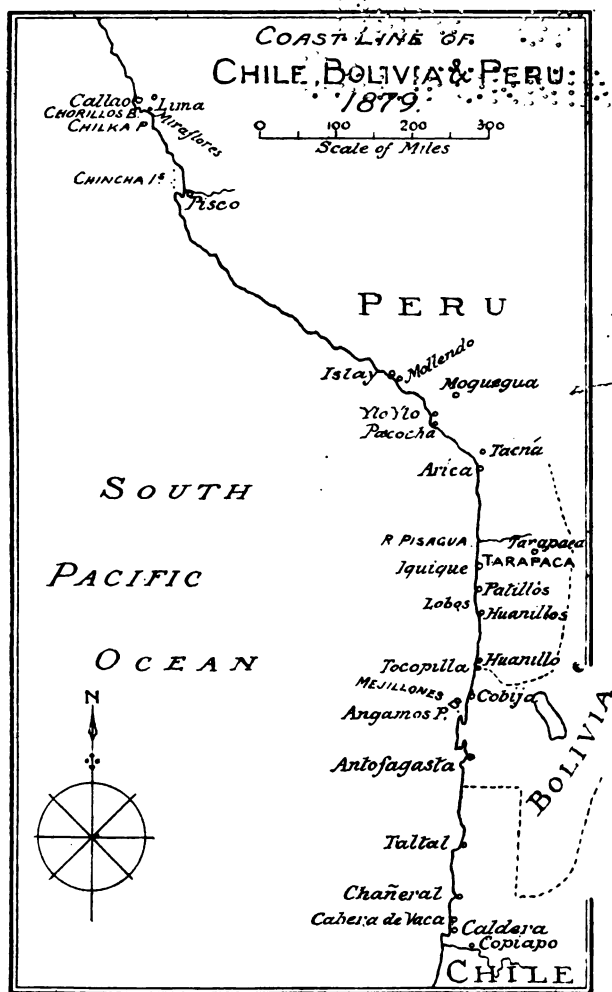
f. "Etude sur les Opérations de Guerre Maritime de 1860 à 1883." By M. Etienne Farret, lieutenant de vaisseau, French Navy. 1884.

g. "Etude sur les Combats livrés sur Mer de 1860 à 1880." By M. Etienne Farret, lieutenant de vaisseau, French Navy. 1881.

h. Personal narratives and notes of several British naval officers who were on the station at the time.

I. ORIGIN OF THE WAR, AND NAVAL STRENGTH OF THE COMBATANTS

1. The Désert of Atacama was for many years without an acknowledged owner. Chili claimed it, so also did Bolivia; but it was not considered to be of much importance, and was certainly not regarded as worth fighting for, until it was discovered that it was rich in nitrates and in other mineral wealth. In 1866 the two republics, being allied in war against Spain, fixed by treaty the 24th parallel of south latitude as the future boundary between them; and Bolivia agreed that Chilian citizens who were already landowners between 23° and 24° south should be allowed to mine and to export the produce without tax or other hindrance. To facilitate this arrangement, Chili was permitted to maintain a representative in the custom-house at Antofagasta. The nitrate business of those days was chiefly in the hands of a company, the heads of which were the British house of



To face page 74.]

TO WHOM
IT MAY CONCERN

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Gibbs, a Chilian named Edwards, and the Chilian Government. On February 23rd, 1878, Bolivia saw fit to impose a tax of 10 centavos ($4\frac{1}{2}d.$) per quintal (152 lbs.) on all nitrates. Chili remonstrated; but Bolivia insisted, and declared, in addition, that the tax was meant to be retrospective, and that unless all dues were paid before February 14th, 1879, the nitrates in the hands of the exporters would be seized and sold by auction. As the day which had been fixed for the seizure drew near, a Chilian squadron, under Rear-Admiral Rebolledo Williams, was got ready and sent to the north; and at length the occupation of Antofagasta was ordered and effected by 500 Chilian regulars, who were landed from the ships. This was, of course, tantamount to a declaration of war. A Chilian force under Colonel Sotomayor advanced to Caracoles to protect the mines there, and on March 23rd, 1879, defeated at Calama a body of Bolivians under Dr. Ladislao Cabrera, who had to retire with a loss of twenty killed or wounded, and thirty prisoners. The Chilians lost twelve only. Peru thereupon made some precautionary preparations, and sent envoys both to Bolivia and to Chili. Chili demanded the reason of her preparations, and required that they should cease, and, receiving no satisfactory answer, made public the fact that she knew of a secret treaty, dated February 6th, 1873, between Bolivia and Peru, and declared war against the latter as well as the former.

2. As the whole coast of the countries concerned is arid and desert-like, save where numerous valleys run up from the sea, there are few facilities for communication by land in a north and south direction. Most of the railways run inland. As the length of coast is very great, and the countries extend, for the most part, only two or three hundred miles from the shore, the various districts have at hand readier means of intercommunication than are to be found on land, and utilise the sea to a degree to which it is utilised in perhaps no other part of the world. This dependence upon the sea influenced the entire course of the

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war of 1879-81, and rendered the campaign mainly, though by no means exclusively, a maritime one.

3. Immediately after the declaration of war Chili increased her navy by repurchasing the corvette *Abtao*, which she had just previously sold to private parties ; by purchasing from the Pacific Steam Navigation Company the screw steamer *Amazonas* for use as a transport ; and by chartering the *Rimac*, *Itata*, *Lamar*, *Loa*, and *Limari* from the Chilian Steam Navigation Company, and the *Mathias Cousiño* and other steamers belonging to the Cousiño Estate. Upper spars were sent on shore, and the lower yards, if retained to serve as derricks, were cock-billed. The head-booms were unrigged, and all but the standing bowsprits of the wooden vessels landed. Particulars of the Chilian and Peruvian war-vessels engaged in the early part of the war, and of their armaments at the time, will be found in the table on the opposite page. Bolivia had no navy.

4. The senior Peruvian naval officer afloat was Captain Don Miguel Grau, a native of Piura, and at the time forty-five years of age. He had been educated at the nautical school at Paita, and, having served in the mercantile marine and as a coast-pilot, had entered the navy in 1856, and become a lieutenant in 1863, a lieutenant-commander in 1865, and a commander soon afterwards. In 1868 he was given command of the *Huascar*. From 1873 until 1879 he was member of Congress for Paita, but on the outbreak of war he successfully applied to be again appointed to the *Huascar*. He was an officer of the highest capacity and bravery, remarkably quiet and unassuming, and an excellent seaman. His people worshipped him, and all who knew him honoured him. Under his direction the squadron was divided as follows :

1st Division.	2nd Division.	3rd Division.
CAPTAIN GRAU.	CAPTAIN CABILLO.	CAPTAIN GARCIA Y GARCIA.
<i>Huascar</i> .	<i>Manco Capac</i> .	<i>Union</i> .
<i>Independencia</i> .	<i>Atahualpa</i> .	<i>Pilcomayo</i> .
<i>Oroya</i> .	<i>Chalaco</i> .	<i>Limeña</i> .

NAVAL FORCES OF THE COMBATANTS.

CHILI.

Class. I. — Iron. W. = Wooden.	Name of Ship.	Date of L'ch.	Tonnage.	Horse Power.	Noninl. Sea Speed in knots.	Com- p- ment.	Guns.
I. Ironclad Battleship	<i>Almirante Cochrane</i> *	1874	3,560	2,900	11	300	69-in., 12-ton M., 1 20-pr., 1 9-pr., 1 7-pr., 1 1-in. Nord.
I. Ironclad Battleship	<i>Bianco Encalada</i> *	1876	3,660	3,000	11	300	69-in., 12-ton M., 1 20-pr., 1 9-pr., 1 7-pr., 2 1-in. Nord.
W. Corvette	<i>O'Higgins</i> *	1866	1,670	1,200	10	160	37-ton M., 2 70-pr. M., 4 40-pr. M.
W. Corvette	<i>Chacabuco</i> †	1867	1,670	1,200	10	160	37-ton M., 2 70-pr. M., 4 40-pr. M.
W. I. Corvette	<i>Ablan</i> *	1864	1,060	1,200	8	150	3 150-pr. M., 3 30-pr. M.
W. Sloop	<i>Emeralda</i> ‡	1864	850 O. M.	200 N.	[3]	160	14 40-pr. M., 1 64-pr. M., 1 20-pr. M.
I. W. Gun-vessel	<i>Magallanes</i> *	1874	772	1,200	11	..	2 70-pr. M.
Gunboat	<i>Coradonga</i> §	1875	412 O. M.	140	8	..	Light guns only.
Ped. Transport	<i>Tolken</i>	1875	240	270	9	..	Light guns only.
Transport	<i>Amazonas</i>||	1874	1,970	2,400	14	..	8-in. R. L.
I. Cruiser	<i>Angamos</i> ¶	1876	1,180	1,480	14	..	8-in. R. L.

and a number of chartered steamers belonging to mercantile companies, beside torpedo-boats (spar).

* See p. 140. After the battle of Angamos each of these ships took on board several Hotchkiss revolving cannon of small calibre.

† Built in England. Length, 217 ft.; beam, 35 ft.; mean draught, 16 ft. 9 in.; simple old type engines; single screw; ship rig.

‡ Built in England. Length, 200 ft.; beam, 35 ft.; draught, 14 ft.; simple old type of engines; single screw; ship rig; very old and rotten; boilers almost useless.

§ Had been captured from the Spaniards in 1866 by the *Emeralda*. Old type of engines; single screw; three-masted topsail schooner.

|| Bought from the Pacific Steam Navigation Company. Built at Greenock. Length, 301 ft. 7 in.; beam, 39 ft. 4 in.; mean draught, 16 ft. 5 in.

¶ Purchased after the battle of Angamos.

PERU.

I. Ironclad Monitor	<i>Huascar</i> *	1865	1,130	1,200	11	200	2 10-in., 12-ton M., 2 40-pr. M., 1 12-pr. M., 1 Gatling.
I. Armoured Frigate	<i>Independencia</i> †	1864	2,004	1,500	12	..	1 350-pr. M., 3 150-pr. M., 12 70-pr. M.
I. Ironclad Monitor	<i>Manco Capac</i> †	1866	2,100	330	6	..	2 15-in. S. R.
I. Ironclad Monitor	<i>Atahualpa</i> †	1868	2,100	330	6	..	2 15-in. S. R.
W. Corvette	<i>Union</i> ‡	1864	1,150	400 N.	12	..	2 100-pr. M., 3 70-pr. M., 12 40-pr. M.
W. Transport	<i>Talisman</i>	1864	310	180 N.	10	..	2 70-pr. M., 4 40-pr. M. (later B. L. guns).
W. Gun-vessel	<i>Pilcomayo</i>	1864	600	..	11	..	2 40-pr. M.
Ped. Transport	<i>Chilaco</i>	1866	1,000	..	12	..	2 40-pr. M.
Ped. Transport	<i>Limica</i>	1866	1,163	..	12	..	2 40-pr. M.
Ped. Transport	<i>Oroya</i>	1873	1,597	400 N.	..	..	..

besides torpedo-boats (spar).

* See p. 140.

† Built by Samuda Bros., at Pöplar. Length, 216 ft.; beam, 44 ft. 9 in.; mean draught, 22 ft.; three water-tight compartments; engines of old type by Pöplar; armour 4 in. on water-line and central part of battery, with 10 in. of teak backing; ship rig.

‡ These had been the U. S. ships *Ousea* and *Caracua*. Length, 233 ft.; beam, 46 ft.; mean draught, 13 ft. 6 in.; vibrating lever engines; laminated armour, 5 in. thick on sides and 10 in. on turret.

§ Built at Nantes. Length, 243 ft.; beam, 35 ft. 6 in.; mean draught, 18 ft.; simple engines; ship rig. The two 100-pra. were removed during the war.

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II. PRELIMINARY MOVEMENTS

5. On April 5th, 1879, the Chilian squadron, under Rear-Admiral Rebolledo Williams, consisting of the *Almirante Cochrane*, *Blanco Encalada*, *O'Higgins*, *Chacabuco*, and *Esmeralda*, appeared off Iquique, the only defences of which were a battery of four 9-pounder field-pieces. Admiral Williams announced that a blockade would be established from April 15th onwards.

6. On April 12th the Chilian corvette *Magellanes*, Commander J. J. Latorre, while on her way northward to join Admiral Williams's squadron, fell in, off the mouth of the River Loa, with the *Union* and *Pilcomayo*, and, having fought a running action for about two hours, escaped, thanks to her superior speed. In the fight the *Union* was so much injured that she at once returned to Callao, where she was docked. It is to be remarked that, nominally, the *Union* was faster than the *Magellanes*. The Peruvian vessels, however, except the *Huascar*, were less well taken care of than the Chilian, and their engine-power deteriorated in consequence.

7. On April 15th some of the Chilian vessels visited the guano-loading ports of Huanillos and Pabellon de Pica, where they ordered off such vessels as were loading and destroyed the machinery. On the same day, most of the population of Iquique (including a very great number of Chilians) having in the meantime embarked and put to sea in merchant vessels, the blockade of that place commenced.

8. On April 18th the *Almirante Cochrane* and *Chacabuco* fired at the railway station and custom-house at Mollendo, one of their boats, which had been sent in to communicate, having been attacked from the shore; but no serious damage was done. A somewhat similar affair occurred on the same day at Pisagua; but there much of the town was destroyed. Soon afterwards the *Almirante Cochrane* quitted Iquique for Valparaiso, in order to be overhauled. During the blockade the ships forbade the condensing of

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fresh water on shore, and, at least on one occasion, enforced the prohibition by throwing shells in the direction of smoke which appeared to indicate that condensing was in progress. This caused much inconvenience, as natural fresh water was almost unobtainable on the spot.

9. On May 16th, at night, President Prado, of Peru, with a large staff, left Callao in the *Oroya*, accompanied by the *Independencia*, *Huascar*, *Chalaco*, and *Limeña*, but leaving behind the *Atahualpa* and *Manco Capac*, and, by taking a circuitous route, safely reached Arica, where he assumed the office of Supreme Director of the War. At that time Peru had begun to receive from abroad consignments of arms. Among them were a number of Lay* torpedoes, brought by skilled machinists, and two small Herreshoff torpedo-boats, which were shipped in sections and put together at Callao. One boat was ruined at the first trial: the other eventually attained in Peruvian hands a speed of about nine knots.

10. After landing their troops, the *Huascar* and *Independencia* left Arica at 8 p.m. on May 20th for the southward, they having heard that Chilean ships had been seen northward off Iquique, and having concluded that the blockade of that port was weakly maintained. But Rear-Admiral Williams had already heard of the intended expedition from Callao to Arica, and, hoping to force a general action at sea, had left Iquique on May 16th for the northward with the *Almirante Cochrane* (which had rejoined),

* Patented in 1873: the invention of Mr. John Louis Lay. It was a cigar-shaped automobile torpedo, driven by compressed carbonic acid gas, but steered by electricity through a cable which unwound from the weapon as it progressed. Its speed was about 12·5 knots. The cable, which contained several wires, was also used for transmission of force to stop the torpedo, to vary its immersion, and to explode its charge of 90 lbs. of dynamite. The torpedo could not travel entirely submerged; and this fact, combined with its dependence upon a cable, prevented it from being generally adopted. It was, however, in the United States and in Russia accepted as a weapon suitable for purposes of coast-defence.

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Blanco Encalada, *O'Higgins*, *Chacabuco*, *Magellanes*, and *Abtao*, the last named being filled with combustibles, so as to serve in case of need as a fire-ship. The *Esmeralda* and *Covadonga*, being too slow for other work, were left to keep up the blockade.

III. THE ACTION OFF IQUIQUI, MAY 21ST, 1879

11. The Chilean squadron kept close in with the land, and thus saw nothing of the Peruvians. On the night of May 21st it arrived off Callao, and sent in a steam launch, which seems to have discovered the absence of the enemy. At sunrise the Chilean ships were sighted from the shore steaming on and off in line ahead. At 11 a.m. on the 22nd they went south again.

12. In the night of May 20th the *Huascar*, Captain Grau, and the *Independencia*, Captain J. G. Moore, looked in at Pisagua to satisfy themselves as to the absence of the Chilean ironclads, and, being reassured, kept on to the southward, and at daylight on the 21st were sighted approaching Iquique, where, as has been said, the little *Esmeralda* and *Covadonga* were the sole representatives of the Chilean forces. The former was commanded by Commander Arturo Prat,* senior officer: the latter by Commander Carlos Condell.

13. Prat, owing to the slowness of his ships, could not have escaped; but few would have blamed him had he, in view of the overwhelming strength of the enemy, destroyed his vessels, or even fired a few shots and then hauled down his flag and surrendered. But he was not an officer of that

* Arturo Prat, one of the greatest naval heroes of the nineteenth century, was born on April 3rd, 1848, and was thus in his thirty-second year. He had distinguished himself by capturing the *Covadonga* from the Spaniards in 1866, and by quelling a serious mutiny on board the Peruvian corvette *Union*. He had also been gunnery instructor in the Naval School. An ironclad, appropriately named after him, was built for Chili at the Forges et Chantiers at La Seyne, near Toulon, and launched on December 20th, 1890.

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kind. He was determined to fight, no matter what might be the odds against him ; and his conduct in the engagement that followed surely teaches to naval officers all the world over a lesson of gallantry and devotion that must never be lost sight of.

14. At 8 a.m. the *Huascar* fired a shot that struck between the two Chilean vessels, and at once the action became fierce. The *Huascar* singled out the *Esmeralda*, and the *Independencia* the *Covadonga*.¹ The Chilean transport *Lamar*, which was in port when the enemy was first sighted, made off promptly to the southward, and took no part in the fight ; and, after the battle had progressed for about an hour at distances varying from 1,000 to 2,000 yards, the *Covadonga* also steered southward, closely followed by the *Independencia*, while the *Esmeralda** remained in Iquique harbour, whence, indeed, she was scarcely able to move, and fought the *Huascar*. As she kept between the ironclad and the town during part of the engagement, she obliged her opponent to be very careful of her fire, for fear of injuring her friends on land. On the other hand, the Peruvians dragged down a field-battery to the beach, and opened upon the *Esmeralda* at a range of less than 500 yards. The field-guns ultimately forced the Chilean to go further out into the bay, though this movement was also to some extent rendered advisable by an attempt on the part of the *Huascar* to ram.

15. At that time the *Esmeralda*, owing to mishaps to two of her ancient boilers, was incapable of a speed of more than two or three knots. This was at about 10.30 a.m. The gunnery on the Peruvian side was execrable. The *Huascar* fired at least forty shots from her two 10-inch 300-pounders, but of these only one hit the sloop. That shot passed through the side, burst in the engine-room,

* The guns of the *Esmeralda* could theoretically penetrate the thin bow and stern armour of the *Huascar*, but were perfectly powerless against her midship armour, and the still thicker armour on the turret.

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killed every one of the engineers, and disabled the engines. But the *Esmeralda's* fire, as admitted by Captain Grau, was excellent. Unfortunately it was of little serious use against her armoured opponent. The musketry fire was so heavy as to be mistaken by the Peruvians for machine-gun fire.

16. When the *Esmeralda* came out into the bay, Captain Grau renewed his attempts to ram her. On the first of these occasions he steamed at about eight knots, and, steering N.E., struck the *Esmeralda*, which was heading N., but was nearly motionless, on the port quarter. The engines were stopped when about a cable separated the two ships, and the blow was harmless.

17. As soon as the vessels were in collision, Prat, followed by only one man, leapt sword in hand on to the *Huascar's* forecastle, and, rushing aft along the port side of the deck, was shot down by a musket-ball at the foot of the turret. The command of the sloop thereupon devolved on Lieutenant Serrano.

18. The monitor at once backed off, and headed again for the *Esmeralda*, which presented her bow. Once more the *Huascar's* engines were prematurely stopped, and the blow, received on the enemy's starboard bow, did little or no damage; and once more boarding was tried; but Serrano, and all the twelve men who followed him, fell dead on the ironclad's deck.

19. The third attempt of the *Huascar* was better managed. The head of the sloop had fallen off to W., and the ironclad, steering S. at full speed, and stopping her engines only when she was twenty feet from her motionless and now perfectly unmanageable victim, struck her squarely on the starboard beam. The *Esmeralda* sank at 12.10 p.m. with her colours flying and her guns still firing. It should be noted that, so long as the *Esmeralda* was under any control at all, her enemy, though a fast ship comparatively speaking, failed to injure her with the ram.

20. The *Huascar* was not seriously the worse. A projectile entered the turret through one of the ports, but

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came to rest without injuring any one. Other shots cut the tripod foremast nearly away. And, while ramming, the *Huascar* somewhat damaged her bows, and sprang a leak. But the Peruvians, with few exceptions, were so demoralised that Captain Grau afterwards confessed that, had Prat had time to transfer a reasonable force of boarders to the *Huascar's* deck, the vessel would not improbably have been taken. It is worth while to recall that before going into action Prat, addressing his officers and men, said :

"Children, the odds are against us. Our flag has never been lowered in the presence of the enemy. I hope that it will not be to-day. As long as I live that flag shall fly in its place, and, if I die, my officers will know how to do their duty."

These are words which, judging by the acts which followed them, deserve to be for ever remembered. They seem almost to rank with the words of Nelson's historic signal.

21. Not less brilliantly did the *Covadonga* bear herself. Making slowly to the southward, she led close along the shore, crossing shoals and being at times on the edge of the breakers. Condell's* seamanship was beyond praise. The *Independencia*, whose gunners were untrained, very seldom hit the gunboat, although the two craft were often within a cable's length of one another. Captain Moore, despairing of ever ending the affair with gun-fire, twice tried to ram and twice failed. Off Punta Grueso he essayed again. The *Covadonga* was within a hundred yards of the beach, and had just touched a reef. Steering about S.S.E., the *Independencia* aimed an oblique blow at her enemy's starboard quarter, and, missing her, struck a rock and piled up on it. This was at 11.45 a.m. or thereabouts. The reports of both captains show that a shot from one of the *Covadonga's* riflemen killed the *Independencia's* helmsman

* A Chilean torpedo-gunboat, named after this distinguished officer, who subsequently attained flag-rank, was built at Birkenhead in 1890, and bore an important part in the Chilean Civil War of 1891, as will be seen later.

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at the critical moment, and that in consequence an order to port the helm to avoid running ashore could not be obeyed. The ironclad's only steering-wheel was the ordinary one on deck. Here we have a further example of the limitations and risks of attempts to use the ram.

22. Commander Condell at once went about, and, passing along the starboard side of his opponent, gallantly took up a position astern of her, and began as heavy a fire as he could deliver. The *Independencia* could not retaliate, as her lower part was full of water and she had fallen over on her starboard side; and when a shell from the *Covadonga* set her on fire aft, she struck, and hoisted a white flag. But Condell could not enjoy the fruits of his victory. The *Huascar*, after picking up the survivors of the *Esmeralda*, appeared beyond the western end of the island which forms the south side of Iquique Bay. The *Covadonga* steamed off. The monitor, having briefly spoken her stranded consort, took up a slow pursuit and continued it until dark; but at last Captain Grau, anxious about the state of his own ship, which, owing to the leak in her bow, could not be steamed fast, apprehensive of falling in with the Chilean ironclads, and not certain as to the safety of the *Independencia's* people, returned. It was clearly impossible to save the stranded vessel, and she was thereupon burnt.

23. The *Covadonga's* fire was excellent. It dismounted the 250-pounder muzzle-loading pivot Vavasseur gun which the *Independencia* carried in her bows, after the weapon had only once succeeded in delivering an effective shot. This projectile entered on the *Covadonga's* starboard quarter, raked the ship along her whole length, and passed out on the port bow. The other Peruvian guns continued to fire, but with comparatively small effect. In the meantime the Chilean small-arm fire kept the *Independencia's* people below, and was mistaken by Captain Moore, as the *Esmeralda's* rifle-fire had been by Captain Grau, for the fire of machine-guns. Captain Moore was placed under arrest and imprisoned at Arica.

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24. It had been a bad day for Peru. Two of the *Independencia's* 150-pounders were got up; but otherwise the ship was a total loss. The *Esmeralda*, it is true, was sunk; but she had been of no great fighting value, and it was solely because of the numerous casualties among her brave officers and crew that Chili had to regret her fate. The only substantial gain for Peru was the temporary raising of the blockade of Iquiqui. As for the *Huascar*, her bow leaked, her turret was damaged, and her tripod mast was so injured that at Callao subsequently it had to be removed.

25. She was, however, able gently to continue her cruise to the southward. At Antofagasta she exchanged shots with the *Covadonga*, which lay inside the reef and was supported by three 150-pounders mounted in sand batteries on the face of the town. A projectile from one of these struck the monitor under her counter, close to the water-line, and penetrated the armour, although the blow was not a direct one. Having cut the cable connecting Antofagasta with Valparaiso, the *Huascar* turned northward again, and, when off Huanillos at 5.50 a.m. on June 3rd, sighted two vessels, which she at first took to be the *O'Higgins* and the *Chacabuco*, but presently discovered to be the *Blanco Encalada* and the *Magellanes*. They chased her, and, as she was not only crippled, but was also burning some very inferior coal which she had taken at Pachoca and Pisagua, she had a most hard and perilous run of eighteen hours ere she succeeded in escaping. Shots were exchanged, but no important damage was done on either side.

26. At Callao, which the *Huascar* reached on June 7th, the ship was enthusiastically received; and Captain Grau, by unanimous vote of Congress, was raised to the rank of Rear-Admiral. At his own request, however, he was retained in his old command. He engaged some new men, including many foreigners and several trained gunners, caused an iron screen to be fitted in the *Huascar's* main-top, which he arranged as a post for a Gatling gun and riflemen,

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and made some other improvements. At the beginning of July the vessel, having been repaired, was again at sea.

27. After the return of the Chilian squadron from Callao, the blockade of Iquique had been re-established under Captain Simpson, of the *Almirante Cochrane*; and Rear-Admiral Williams, with whose conduct of affairs much dissatisfaction was expressed in Chili, went in the *Blanco Encalada* to Valparaiso, where he was relieved of his command. Captain Salamanca, chief of Rear-Admiral Williams's staff, was sent to Coquimbo as captain of that port; and Commodore Galvarino Riveros succeeded Williams, having, as chief of his staff, Lieut.-Commander Castillo. A few weeks later Captain Simpson was superseded as captain of the *Almirante Cochrane* by Captain Latorre of the *Magellanes*, and was directed to do duty on shore at Antofagasta with the army. In the meanwhile the *O'Higgins* and *Chacabuco* were reboilered, and otherwise refitted at Valparaíso. It was at this period that a torpedo-launch, which had been improvised by the Peruvians, was captured by the Chilians off Pisagua.

28. On both sides the organisation of the troops made progress. Large concentrations were effected by the Chilians at Antofagasta. At Pisagua the allied army of Tarapacá, under General Buendia and the Bolivian Colonel Granier, was ten thousand strong, and was receiving by sea reinforcements, provisions, and even Lay torpedoes and an expert to work them; for, strange to say, although Iquique was closely blockaded, Pisagua, which in practice was almost equally useful to the Peruvians, was left open. Chili had not yet learnt how best to employ her strength.

IV. THE CRUISE OF THE "HUASCAR," AND THE WAR AGAINST COMMERCE

29. On July 9th Rear-Admiral Grau, in the *Huascar*, looked into Arica, and communicated with the Director of the War, who ordered him to proceed to the southward,

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and to do as much damage as he could to the enemy's transports and small craft, but not to risk an action with superior or even with equal forces. Grau was also apprised of the blockaders' habit of getting under way every night and going out to sea, in order to escape danger from the torpedoes which, they knew by that time, had got into Iquiqui by way of Pisagua.

30. Departing in pursuance of orders, Grau, during the same night, ran into Iquiqui Bay, and, having communicated with General Buendia, was leaving again when he discovered the Chilean hired transport *Mathias Cousiño*. The *Huascar* forced this craft to strike, and would have taken possession of her, had not another vessel approached. This, supposed at first to be the *Almirante Cochrane*, turned out to be the *Magellanes*, which was still commanded by Latorre. The *Huascar* at once headed for the new-comer, and, at a distance of a cable and a half, discharged one of her turret guns, and opened a warm fire from machine-guns and small-arms. The *Magellanes* replied with grape from her 64-pounder, and then made shift to hold her own with her 20-pounder and with rifle-fire, as she could not, for the time, bring either of her heavy guns to bear. Thereupon the *Huascar* made two attempts to ram, but was easily avoided, and contented herself with assuming a position only half a cable distant on the starboard beam of the *Magellanes*, and plying her guns.* This enabled the *Magellanes* to use her 7-ton

* The fact that a 7-inch projectile from the *Magellanes*, delivered at close quarters, inflicted injury upon the *Huascar's* armour reminds one that an ironclad ought in no case to endeavour to use the ram against a wooden ship, so long at least as the former may hope to reduce the latter by means of gun-fire. Possibly Grau would not have approached closely and sought to end the action as he did, had he not feared to be disturbed by the *Almirante Cochrane*. He must have known that, striking normally at very close range, a 7-inch projectile was certain to pierce any of his armour, but that, at comparatively long range, it was unlikely to harm him materially, at least in that quarter.

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muzzle-loader, one shot from which was fired, and seems to have inflicted some slight injury on the turret-ship at the water-line. Thus provoked, the *Huascar* again tried ramming, and endeavoured to strike her enemy at right angles amidships; but again the *Magellanes* dodged the blow. A fourth attempt, directed end on at the *Magellanes'* bow, failed equally. To attempt to ram a ship which has sea-room and is under any kind of control is an almost hopeless experiment. It was a close action; yet, though the *Huascar* had fired six 300-pounder projectiles, and the *Magellanes* one 115-pounder, one 64-pounder round of grape, six 20-pounder shells, one 20-pounder round of grape, 2,400 rifle-shots, and 360 revolver-shots, neither ship was much the worse, and only three people had been slightly hurt. The firing brought up the *Almirante Cochrane* from seaward, whereupon the *Huascar* made a brief running fight of it, and, pursuing her instructions, got away. The action was creditable enough to Captain Latorre, and it was in consequence of it that he was promoted to succeed Captain Simpson in the *Almirante Cochrane*.

31. This affair induced the Chilians, instead of going to sea at night, to lie at anchor. But they were still disturbed. On the night of July 16th an object, supposed to be a Lay torpedo, was sighted in the water near the *Almirante Cochrane*. It was fired upon, and nothing more was seen of it. Upon the assumption that an attempt had been made from the town, about forty shells were then thrown into the place, where they killed several non-combatants, as well as others, and did some material damage.

32. The next expedition of the *Huascar* began on July 17th, when, accompanied by the *Union*, she left Arica for the southward. At Caldera, Cavrigal, Bajo, and Pan de Azucar she and her consort destroyed the boats used for landing purposes. They also captured two merchantmen loaded with coal and copper. On the 26th the ironclad fell in with and took the Chilean transport *Rimac*, which was on her way to Antofagasta with stores and the Yungay

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cavalry under Colonel Bulnes. The officers thus captured, with those of the *Esmeralda*, were sent in the *Pilcomayo* to Callao, and thence to Tarma, whither the troopers were despatched later. The defences of Callao at about that time underwent some improvement. A sunken battery, constructed on the long spit known as the Whale Back, was armed with two 20-inch 1,000-pounder M.L.S.B. guns, one a Rodman and the other a Dahlgren. On the north side of the town several heavy guns were also mounted. Simultaneously Ancon, to the north of Callao, and Chorillos, south of the same place, were slightly fortified.

33. Pursuing his cruise in the *Huascar*, Grau again visited Caldera, where he would have captured the hired transport *Lamar*, but that the vessel had been hauled into very shallow water behind the mole. By that time he had had leisure to overhaul the official papers taken in the *Rimac*, and, perceiving from them that the Chilians were expecting two cargoes of arms from Europe by way of the Straits, he despatched thither the *Union* under Captain Garcia y Garcia. The first cargo passed Punta Arenas just before the *Union* reached that place on August 18th. The Chilean governor, who had but forty men with him, seems to have simulated a certain degree of friendliness, and to have not only allowed the *Union* to coal and provision, but also started her off on a wild-goose chase in the wrong direction at the very moment when the second cargo was expected. Thanks to his ingenuity, both vessels got through; but two Chilean ships which had been sent down from the north to look for the *Union* failed to find her. The arms and munitions reached Valparaiso safely, and were used to equip 3,000 new troops, who by that time were well drilled, and who were enabled to leave on September 20th in twelve men-of-war and transports for Antofagasta.

34. But in the meanwhile the unchecked operations of Grau had caused considerable discontent in Chili. They had led Chili to fear for the safety of her ports, to interrupt the transportation of troops and stores, and to suffer from

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delay of her general trade ; and, owing to the consequent outcry, the government abandoned the blockade of Iquique, recalled to Valparaiso for repairs all ships that could be spared from necessary service at Antofagasta, and, appointing Don Rafael Sotomayo to the post of Minister of War, sent him to Antofagasta to push forward the campaign. On the other hand, the Peruvians removed the *Mamco Capac*, under convoy of the *Oroya*, from Callao to Arica, which had become the headquarters of the allied army, and which, lying beneath a high fortified bluff called the Moro, had been further protected by a semicircle of forts. The monitor was placed in a position where she might act as the complement of the system of defences.

35. Grau, still cruising, looked in at Iquique, and, finding the port open, took on board there two Lay torpedoes and a man skilled in the management of them. On the night of August 27th, apprised of the departure for Valparaiso of the main part of the Chilean forces, he appeared off Antofagasta, where the *Abtao* lay at anchor off the reef. It was his intention to torpedo that ship, and he approached her until she was little more than a cable's length from him. The admiral would have gone still farther in, but the skilled man deemed two hundred yards near enough. What follows is, according to Lieutenant T. B. M. Mason, U.S.N., generally accepted, but I have been unable to verify it to my entire satisfaction, owing to the unusual reticence of the official eye-witnesses. "One of the torpedoes was then launched from the deck, and had proceeded some distance on its course, when it began to turn to port, making a half-circle in that direction, and coming back towards the vessel. Efforts were made to stop it, but nothing but a reduction in speed was effected. Lieutenant Diez Canseco, appreciating the danger to which all were exposed, jumped overboard, and caused the torpedo to deviate from its dangerous course." There seems to be little doubt that this is really what occurred ; but, no matter how that may be, it is certain that the *Abtao* was not torpedoed, that Grau

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was disgusted with the weapons, and that when he returned to Iquiqui he landed his two Lays, and buried them in the cemetery, where later they were unearthed by the Chilians.

36. The *Magellanes* on this occasion was in company with the *Abtao* at anchor. Next day at 11 a.m. the *Huascar* went in under the shore batteries, and engaged the enemy briskly. One of her 300-lb. common shells, with British service percussion-fuse, fired at a range of 3,000 yards, struck the *Abtao* on the starboard side, passed through the iron mainmast, and burst on deck on the port side abreast of the engine-room hatch, injuring the mainmast and bulwarks, tearing a hole four feet by six in the deck, twisting the deck-beams, smashing the engine-room gallery plating, and sending fragments downwards, where only the coal in the bunkers saved the bottom of the ship. The chief engineer, who was on the spar-deck, and five men were killed by this projectile. One of the men had his head taken entirely off by the barrel of his rifle, which he had slung diagonally across his back. A similar shell, a minute later, glanced from the *Abtao's* bridge-rail, passed through the bridge-frame and ladder, traversed the funnel, struck a cavil-plate in the port water-way, and, bursting, bulged out the ship's side and inflicted other damage. This killed eight men; and about twenty in all were killed or wounded on board during the engagement. The excellent action of the fuses was much commented on; nor was the accuracy of fire less admirable. The *Huascar* also suffered. A 150-lb. shell entered her funnel on the starboard side, descended it, and passed out and through the coaming of the fire-room hatch eighteen inches from the deck on the other side. Having killed the lieutenant in charge of the quarter-deck guns, and wounded the ship's bugler, it glanced on the water-way, and went overboard without exploding. Had it come in at a slightly lower point, it would probably have passed under the armoured deck into the port boilers, there being no bomb-proof grating to stop it. This projectile seems to have been fired by the *Abtao*.

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37. From Antofagasta the *Huascar* went to Taltal, Tocopilla, and Mejillones de Bolivia, destroying boats and hulks, and thence northward to Arica, where Admiral Grau represented that, her bottom being very foul and her speed much impaired, she should be sent to Callao to be overhauled. It will be seen presently that the gallant officer's advice was not listened to by General Prado. Had it been, Grau's fate, if not the course of the war, might have been different.

V. THE BATTLE OF ANGAMOS, OCTOBER 8TH, 1879

38. The *Almirante Cochrane* having been repaired, she, with the *Blanco Encalada*, broad pennant of Commodore Riveros, *O'Higgins*, *Covadonga*, *Loa*, and *Mathias Cousiño*, steamed northward on October 1st for Arica. On the morning of October 4th, at 3 o'clock, it being supposed that the *Huascar* was inside, the steam launches of the two ironclads, fitted with spar torpedoes, were sent to destroy her. They failed to arrive off the port until daylight, when they found that the *Huascar* was not there. Fishermen informed Riveros that both the *Union* and the *Huascar* had again gone south. After some debate as to whether it were better to bombard the works and destroy the *Manco Capac*, at risk of injury to the attack, or to pursue the *Huascar*, it was determined to attempt the latter.

39. The *Huascar* and *Union*, still under Grau's orders, but against his wishes and solely at the dictation of General Prado, had left Arica on September 30th. They escorted the *Rimac* with troops under General Bustamante, to Iquique, and at 2 a.m. on October 5th, appeared, moving very quietly, off Coquimbo. The place was strongly and newly fortified, but, though the visitors steamed round the harbour in search of Chilean vessels, not a gun was fired at them, and at 3 a.m. they continued on their course to the southward, where, on October 6th, they intercepted two mail-steamers, and learnt that the squadron of Commodore

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Riveros had gone to Arica. On the strength of this information, Grau, although he had been ordered not to go within seventy miles of Antofagasta, where at the time of his departure from Arica the Chilians were supposed to be, decided to look into that place, seeing that he had also heard that the *Almirante Cochrane* had broken down there. Such an accident had really occurred, but it had been quickly remedied. At 1.30 a.m. on October 8th the *Huascar*, leaving the *Union* as a look-out off Point Tetas, approached Antofagasta anchorage, but, finding no ironclad there, stood out again and rejoined at 3.15 a.m. Both vessels then rounded Point Tetas, and headed northward. Almost immediately they sighted three columns of smoke coming along the coast towards them and distant about six miles. Speedily discovering that the strangers were ships of war, the *Huascar* and *Union*, at 3.30 a.m. altered course to the south-west.

40. After their withdrawal from Arica the Chilians coaled at Mejillones, and on the night of October 7th put to sea in two divisions, the first, under Riveros, consisting of the *Blanco Encalada*, the *Covadonga*, and the *Mathias Cousiño*, making for Antofagasta at 10 p.m., and the second, under Commander Latorre, consisting of the *Almirante Cochrane*, *O'Higgins*, and *Loa*, leaving three hours later, with orders to cruise twenty-five miles on and off Point Angamos. This arrangement was made in accordance with instructions received from headquarters by telegraph. The commodore's original plan had been to move southward along the coast in two divisions, one steaming inshore and the other about forty miles on its starboard quarter. It was in consequence of the new arrangement that, at 3.30 a.m. on October 8th, the first division sighted and was sighted by the Peruvians, though it is just to say that the old plan would in all probability have led to similar results.

41. Having, as has been seen, altered course, the *Huascar* ran for an hour at her best speed to the south-west, making 10.75 knots with sixty revolutions, and an average steam-

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pressure of 25·5 lbs. The *Blanco Encalada* and *Covadonga*, which followed, made only 7·5 knots. The *Mathias Cousiño*, sent at first in the direction of Antofagasta, soon turned and went after her consorts. It was at once plain that, unless an accident should occur, the chase was hopeless ; yet Commodore Riveros, hoping either that an accident would occur or that the enemy would swerve to the northward and so run a chance of being cut off by the second division, kept on his course. As for Admiral Grau, he could perhaps at that time have fought with advantage, had he not been hampered by instructions which forbade him to risk his precious vessels, the sole effective champions of Peru on the sea. Both the *Union* and the *Huascar* were faster than their pursuers, for the *Blanco Encalada* was then in indifferent order ; and the *Union* was, moreover, more powerful by far than the *Covadonga*. But Grau dared not seek action. At 5.40 a.m., finding that he was distancing the foe, he slowed down to fifty-three revolutions, and, unhappily for himself, turned his ship's head northward. Then, being nearly worn out, he lay down to sleep. It was for the last time.

42. At 7.15 a.m. on October 8th the *Huascar* sighted rising smoke to the north-west. She stood slightly to the westward to reconnoitre, and discovered the *Almirante Cochrane* and the other two ships of Latorre's division. As soon as the *Huascar* was seen by the Chilians, they sent on the *Loa* to observe her more closely. Admiral Grau was roused, and was soon on deck. He had heard that the *Almirante Cochrane's* best speed at that time did not exceed eight knots, and, confident that he could elude her, he stood for a few minutes towards the *Loa* ; but presently perceiving that the *Almirante Cochrane* was moving faster than he had been led to anticipate, he headed more to the eastward, and put his engines at full speed. Up to that moment the *Union* had kept station on the admiral's port quarter. At 7.45 a.m., as is alleged by his orders, she went under the admiral's stern, came up on his starboard side, and steamed

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away as quickly as she could, making for Arica. The *O'Higgins* and the *Loa*, parting company, chased her all day and until night fell, but did not bring her to action.

43. In the meantime the *Blanco Encalada* was at a distance of about 8,000 yards on the *Huascar's* starboard quarter, and the *Almirante Cochrane* at a distance of about 8,000 yards on the *Huascar's* port bow; and the two Chilians were converging upon the turret-ship as she strove to get away to the north-east. Grau could out-distance the *Blanco Encalada*, but he soon found that the *Almirante Cochrane* was too fast for him. At 9.10 a.m. the latter had got within 4,000 yards, and was clearly capable of crossing the *Huascar's* bows. Grau, therefore, sent his men to their quarters. As the final preparations were being made for action a delay occurred, owing to the vessel getting, for a moment, out of control when the lead was being shifted from the ordinary wheel under the poop to the fighting-wheel beneath the conning-tower; and, while the change was being made, the *Huascar* yawed considerably. Grau, alone, then went abaft the turret, and entered his wretched 3-inch conning-tower, a structure hexagonal in shape, 7 feet 6 inches high, 8 feet wide, and 5 feet 2 inches long, the slight armour of which was backed by 8-inch baulks of teak, carried up through the deck and supported by inner angle-irons. The summit was uncovered, but was sheltered by the ordinary navigating-bridge.

44. At 9.25 a.m., when the action opened, the *Blanco Encalada* was six miles astern, and the *Almirante Cochrane* 3,000 yards from the Peruvian. It was then that the *Huascar* opened with her turret guns. The second shell struck the water, ricocheted, and, entering the *Almirante Cochrane's* unarmoured bows, wrecked the galley, and fell on deck without exploding. The Chilean did not reply until she was within 2,000 yards. One of her first projectiles penetrated the *Huascar's* armour on the port side, and, as it burst, entered the turret-chamber, where it set fire to the lighter woodwork, temporarily jammed the turret-tracks

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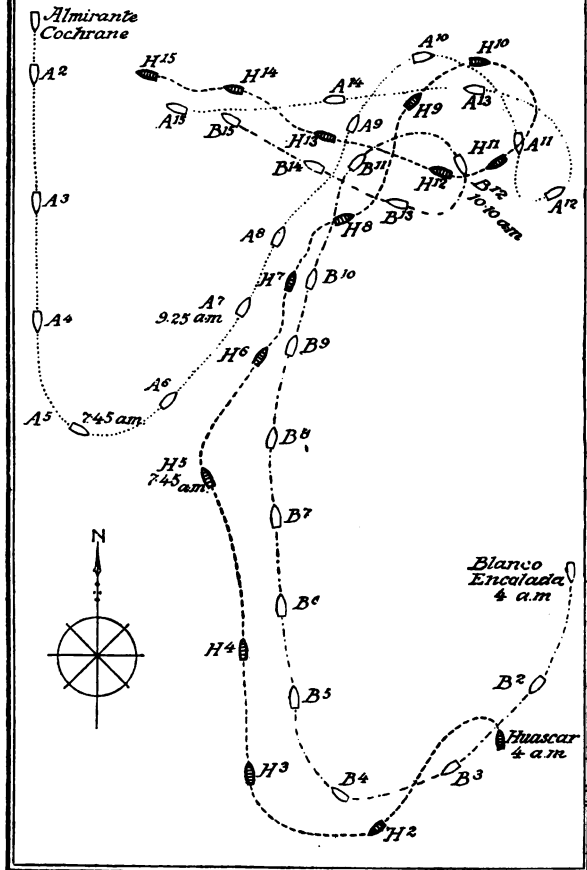
with *débris*, and killed or wounded twelve men, some of whom were working at the turret-winches. Having described a wide sweep, the *Almirante Cochrane* was by that time on a nearly parallel course with that of the *Huascar*, and one of the next projectiles from the latter, a 10-inch 300-pounder Palliser chilled shell, which seems to have broken up as it struck, hit the *Almirante Cochrane's* starboard side armour at an angle of thirty degrees, gouged the plate to a depth of three inches, forced in the backing, displaced the bolts, and broke a beam.

45. At 9.40 a.m., when the two ships, still on nearly parallel courses, were almost abeam of one another, the *Huascar* turned a little to port, hoping to ram her opponent, but the *Almirante Cochrane* altered her own helm to the same extent and in the same direction. At 9.45 a shell struck the *Huascar's* conning-tower, burst inside it, and blew the gallant Grau, whose head and shoulders were usually well out of it, to pieces. One foot, it is said, was the largest fragment of this heroic officer's body that was ever found. Lieutenant Diego Ferré, aide to the admiral, was at the fighting-wheel below the tower in a chamber separated from it only by a wooden grating. He, although no wound or serious bruise was discovered upon his body, was killed by the concussion of the explosion. Part of the projectile disabled the fighting-wheel, and the vessel turned to starboard and ran to the eastward until the damage was repaired and she could again be headed north.

46. The *Huascar*, turning to starboard, brought the *Almirante Cochrane* on to her port quarter. Scarcely had the turret been trained in that direction, ere a shell penetrated it in its thickest part, to the left of the right gun-port, and killed or disabled nearly the whole of both guns' crews. Among the killed were the two gun-captains, and among the wounded was Commander Meliton Carbajal, chief of Admiral Grau's staff, who had entered the turret to inform Commander Elias Aguirre of his assumption of the command. The guns were re-manned, but, as the new men

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were comparatively inexperienced, the firing became very bad. Moreover, the right gun, owing to the bending of the right compressor and cap-square, was disabled. Lieutenant Rodriguez, who ventured to look out of one of the gun-ports, had his head taken off. The native Peruvians on board were much demoralised: the deck had been cleared by the enemy's Nordenfelts and rifles, and a crowd of refugees and wounded filled the cabin and ward-room.

47. But the *Huascar* was still steered and fought by Commander Elias Aguirre and the people of European ancestry and traditions, and she had been put back on something like her northward course. The *Almirante Cochrane* tried to ram her, coming at her at right angles and firing her starboard bow gun at 200 yards. She missed her adversary, but passed not more than five yards astern of her. As she passed she delivered from one of her port guns a shell which hit the *Huascar* on the starboard quarter, and, with other damage, carried away, as it exploded, the iron tiller-block which served as a lead for both ordinary and fighting wheel-ropes. This was a great catastrophe; for, at the moment when it occurred, the *Huascar* for the first time had all her enemies astern of her. Instead of continuing to the northward, she, as before when not under control, turned to starboard, and ere the injury could be repaired she was reduced to the necessity of deliberately keeping to starboard, owing to the presence of the *Almirante Cochrane* on her quarter. While the lead was still adrift, a shell penetrated her armour abreast of the engine-room, covering the engines with wreckage, and killing or wounding several persons in the engine-room, including Surgeon Tavera, and Mr. Griffiths, master of a schooner which had been captured a few days before, and the crew of which had been impressed.

48. At length the relieving-tackles were manned, but they had a very bad lead behind the transoms in the admiral's cabin, and, as the steering was erratic, and Commander Aguirre had to conn the ship from one of the

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turret sighting-hoods, and then pass the word down to the lower deck and so right aft to the men at the tackles, it was no longer possible to manœuvre the vessel properly or promptly. Nevertheless, when the *Almirante Cochrane* again attempted to ram as before, firing her starboard bow gun at 200 yards' range, and coming on with her centre guns trained abeam with three degrees of depression, she once more missed her blow, and passed astern. Soon afterwards, the *Huascar* having by that time circled round until she headed nearly south, the *Almirante Cochrane* was preparing a blow at the turret-ship's starboard quarter, when the *Blanco Encalada*, which was on a circle to starboard, clumsily intervened. This was not until 10.10 a.m., or forty-five minutes after fire had been opened.

49. The *Huascar* managed to turn still more to starboard, so as to face the new-comer, which sheered, also to starboard, to avoid her. The *Almirante Cochrane*, to avoid collision with her consort, had to turn to port, and then describe a large circle ere she could get again into close action. As she thus went away, a shot from the *Huascar* crashed into her unarmoured stern and wounded ten men. But the *Blanco Encalada* now kept the sorely pressed Peruvian fully occupied. As she passed within twenty-five yards, she poured a broadside into the *Huascar's* stern, killing or wounding every man at the relieving-tackles, as well as many of those assembled in the officers' quarters. The injured were thereupon removed to the store-rooms and coal-bunkers, and the *Huascar*, once more under no control, went westward.

50. The ship was in a terrible condition. Owing to the amount of smoke, soot, and wreckage in the fire-room, the men there could not see the gauges; and consequently the water in one of the boilers fell too low, the tubes burned through, and a great escape of steam took place. The enemy was thus led to believe that a boiler had been struck. Three out of the four men serving the Gatling gun in the *Huascar's* top had been killed or disabled in spite of

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the protection afforded by a screen of boiler iron ; and as the fourth man had taken refuge below, the gun was no longer worked. The loss there was, it is clear, occasioned by fire from the higher tops of the Chilian ships. It might perhaps have been partly avoided had the top been covered. At 10.25 a.m. the ship's colours were shot away from the flag-staff, and for a time she was supposed to have surrendered ; but a man ran aft and hoisted a second flag at the gaff. Almost simultaneously another projectile penetrated the turret of the *Huascar*, and killed or mortally wounded every man there, including Commander Aguirre. Lieutenant Pedro Garezon thereupon took command. Aguirre's body was fearfully mangled, and portions of it were entirely blown away. Among the fatally wounded by this shot was Lieutenant Palacios, who, though soon after the action put on board a steamer bound for a Peruvian port, died ere he could reach Lima.

51. Still the *Huascar* struggled on, with more than one fire raging on board, but with engines going, and with the left turret gun occasionally delivering wild shots. The *Almirante Cochrane*, having completed her circle, made a renewed effort to ram, and was only prevented from succeeding by the chance aberrations of the unmanageable Peruvian. Both the Chilian ironclads then followed the *Huascar*, firing all their guns, heavy and light, that would bear, and even the *Covadonga*, which had come up, took part.

52. Lieutenant Garezon, seeing that escape was hopeless, took counsel with his few surviving officers, and determined to sink the ship. But while the question was being hastily discussed, some of the men forward crawled up the fore-hatch, waving towels and handkerchiefs in token of submission. Thereupon the Chilian fire ceased, and the men were able to haul down the flag, while boats were lowered by the *Blanco Encalada* and the *Almirante Cochrane*. But, unconscious of what was going on above, the engineers still pressed their ship on her course ; and the Chilians, fearing

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that their boats were not going to be allowed to board, were about to open fire again, when the *Huascar* gradually stopped. The reason of her stoppage seems to have been that Garezon, after coming to his determination, had sent Sub-Lieutenant Ricardo Herrera to the chief engineer with orders to him to attempt to flood the vessel by opening her valves *; and that, intending to effect the object by opening the circulating-valves of the condensers, Chief Engineer MacMahon or some of his assistants shut off steam. The stoppage allowed Lieutenant-Commander Castillo, chief of staff to Commodore Riveros, and Lieutenant Simpson of the *Blanco Encalada*, who commanded the boats, to board. Simpson, revolver in hand, ran below, and discovered MacMahon and his subordinates at work on the bonnet of the main injection-valve; and his interference put an end to the project.†

53. The devoted ship was found with between three and four feet of water in her hold. Some of the shot-holes in her sides were nearly awash, and, had Lieutenant Simpson not appeared when he did, the *Huascar* would not have been afloat five minutes longer. She was also on fire in several places, especially over the forward magazines. But, as the sea was smooth, and the pumps were in order, it did not take long to free the ship from water and to extinguish the flames.

54. The scene on board was dreadful. "There was," says Lieutenant T. B. M. Mason, U.S.N., "hardly a square yard of her upper works that did not bear marks of having been struck by some species of projectile. Her smoke-stack and conning-tower were nearly destroyed, her boats gone, and

* Grau, who had determined never to be taken, had long before arranged with his engineer officers to do this; but he had told them to count upon getting at least half an hour's warning from him, and this sudden order took them a little by surprise.

† An engineer officer, a Scotsman, who was engaged in this work, and who afterwards entered the Argentine Navy, has informed me that he was already up to his knees in water when Lieutenant Simpson surprised him.

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davits either entirely carried away or bent out of all shape. Her mast was riddled and her port main plates were carried away; but, strange to say, no rigging was cut. The bulwarks, poop, forecastle, and hatch-coamings were much injured. The capstan was struck and knocked overboard by a shot. The Chilian fire must have been extremely accurate,* a fact which is not surprising, as the *Huascar* was reduced during the latter part of the fight—indeed, from the time the *Cochrane* took up her position on her quarter—to little more than an armoured target. Below the scene was much more terrible. Everywhere were death and destruction, caused by the enemy's large shells. Eighteen bodies were taken out of the cabin, and the turret was full of remains of the two sets of guns' crews. The light woodwork, ladders, and bulkheads were all destroyed. . . . She had her steering-gear disabled three distinct times by the enemy's fire, was set on fire in eight different places, and had her turret jammed, her right turret gun disabled, and her light guns and Gatling unmanned. A more curious and demoralising shot-effect can hardly be imagined. Nearly every time that she was struck the greatest possible temporary damage was inflicted, and yet no permanent injury was caused. The armour in this case was only a great disadvantage to her. It served to explode the enemy's projectiles, which it in no case stopped when they struck at any but the smallest angles. The backing and inner skin only served to increase the number of fragments which were driven into the interior of the vessel with deadly effect. On the contrary, the shells that passed through the light iron sides of the forecastle did not explode, and did but little damage. The explosion

* During the action the *Almirante Cochrane* fired 45 and the *Blanco Encalada* 31 Palliser shells, making 76 in all. Of these 20 struck the *Huascar*, 13 piercing her armour. The number of light projectiles fired appears to have been very large. The *Huascar* discharged 40 Palliser shells. Looking to the range at which much of the action was fought, I do not consider that the heavy-gun fire was particularly accurate.

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of each shell—and each shell which pierced the armour exploded—set the ship on fire in a new place. This would suggest the great necessity of permanent water-mains with short-hose connections in all parts of a vessel. The Chilian small-arm and Nordenfelt gun fire drove every one from the decks, and away from the unprotected quarter-deck guns, showing what an important factor that class of fire is to play in all future naval actions. The Chilians had twelve of their best marksmen stationed in each of their fore and main tops. This fire would have been much more terrible had repeating-rifles been used. The fact that good marksmen with rifles drove the crew away from a machine-gun should not be lost sight of. The Nordenfelt has proved itself effective not only against the personnel, but also against the material. This class of arm * is certainly of great importance. The mere fact of even the smaller calibres being able to penetrate the sides of any of our unarmoured vessels up to eight hundred metres (seventy projectiles a minute) ought to call our attention to it very seriously. The difficulty of ramming when both vessels are under way, even when one is almost unmanageable, is a feature worthy of notice."

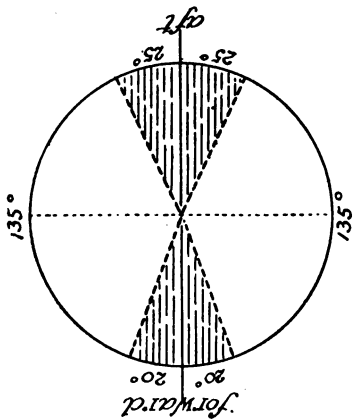
55. "It has been asked," continues Lieutenant Mason in his official report to the Secretary of the United States Navy, "of what use would the Whitehead system of torpedoes † have been in such an action. The answer would seem to be that the Whitehead, or any of the diverging systems, ‡ would have proved to be dangerous and suicidal. The spar type alone might have been used. The great necessity of having several different means of steering seems also to be well proved—especially some of the systems proposed for steering

* *I.e.* any effective machine-gun, *e.g.* a "pompon."

† Then in extreme infancy, of short range, low speed, and very imperfect indeed. Had the *Huascar*, however, had the Whiteheads of twenty years later, with submerged tubes, and had her enemies had none, she would have been victorious without doubt.

‡ *E.g.* the Harvey towing-torpedo, which was not then quite obsolete.

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Plan showing "dead sectors" in circle of fire from the HUASCAR'S turret, where alone she carried heavy guns.

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along the keel, or perhaps even a second rudder, as fitted in the new C class of English corvettes. The places where each of these systems are worked should be in direct telegraphic or voice-tube connection with the position or positions selected for the commanding officer. The position of the commanding officer in action seems another matter worthy of consideration. Near the base of the smoke-stack, the best vertical target on a vessel, seems to be the worst place. The *Huascar's* tower had another disadvantage. It was between the smoke-stack and the turret, the next best target. In this way it stood an excellent chance of being hit by the projectiles which missed either of these prominent objects. The top of the turret was found to be the best position with us (Americans), but a second should certainly be provided. A splinter-grating over the engines would also seem to be suggested by the mass of *débris* which fell on them, but, almost miraculously, did not stop them. It is worthy of note that, while the Chilean vessels could always bring some of their guns to bear on the *Huascar*, the *Huascar* found herself in many positions where only sheering would bring her guns to bear on them. In fact, this action tends to prove that an all-round fire, even inferior in single guns, will have a great advantage over a preponderance of fire within only given limits."

56. It may here be remarked that the "dead sectors" of the circle of which the middle of the *Huascar's* turret was the centre were one of forty degrees forward and one of fifty degrees abaft the turret, or together one-fourth of the whole circle. On the other hand, the *Blanco Encalada* and *Almirante Cochrane* could each bring to bear three heavy guns on the beam, four heavy guns forward, or two heavy guns aft, and they had no "dead sectors" anywhere.

57. The *Almirante Cochrane* was struck but thrice, and her armour was practically intact. She lost 12 men killed or wounded. The *Blanco Encalada* was not touched. The former fired 45 and the latter 31 chilled Pallisers, of which 20 struck the *Huascar*, and 13 pierced her armour. During

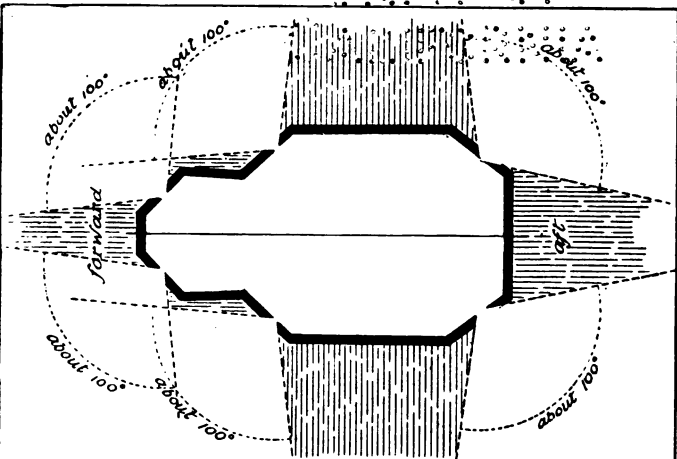
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the action, which lasted ninety minutes, the captured ship, out of a crew of about 200, had 80 killed or wounded, including her 4 senior officers. She fired 40 Palliser shells, of which only 7·5 per cent. struck, and this in spite of the fact that the range was for much of the time less than 600 yards, and sometimes no more than a stone's-throw. We may note, as usual, that, as regards penetration as well as accuracy of fire, the tests of action give very different results from those of the butts and of prize-firing competitions.

58. The *Huascar's* engines were untouched, and three out of her four boilers were immediately serviceable. With little assistance, therefore, she went, in the course of the afternoon, into the neighbouring port of Mejillones. In two days her shot-holes were temporarily stopped and her steering-gear was repaired; and at the end of that time, with a prize crew under Lieutenant Peña, first of the *Blanco Encalada*, she departed for Valparaiso, where she was received with religious, civil, and military ceremonies. Seldom has any ship of war made a more determined defence. The remains of the brave Admiral Grau were buried at Santiago with military honours, and throughout the three countries engaged in hostilities his death was regretted by every one. His conduct had ever been marked by gallantry, humanity, patriotism, and self-sacrifice. He was an honour alike to his country and to his profession.

59. At Valparaiso the *Huascar* underwent a thorough overhaul. Her damaged plates either were taken out, new English ones which had been imported with a view to armouring the *Chacabuco* and *O'Higgins* being substituted, or were permanently plugged with masses of wrought iron hammered in. She was also fitted with a new foremast to take the place of her original tripod foremast, which had been removed at the instigation of Admiral Grau. By December 8th she was again ready for sea.

60. Commodore Riveros was promoted to be rear-admiral; Commander Latorre to be captain; and Lieutenant-Commander Castillo to be commander, and to command the



BATTERY of the ALMIRANTE COCHRANE (and of the BLANCO ENCALADA) showing circle of fire and that there is no "dead sector". At a comparatively small distance from the ship, there is no point upon which heavy guns cannot be brought to bear.

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ABSTRACT

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Blanco Encalada. Peru paid homage to her dead hero by raising by subscription a fund intended for the purchase in Europe of an ironclad to be called the *Almirante Grau*; but the purchase was never effected.*

61. The victory secured the mastery of the sea to the Chilians, who made all kinds of preparations for utilising it. They chartered sailing-vessels, to be towed and used as transports; they supplied the steam transports with large flat lighters for landing troops, and secured these bottom outwards to the vessels' sides; they repaired the *Blanco Encalada* at Valparaiso; and, having secured an iron 14-knot screw steamer, which had brought a cargo of arms to Valparaiso, they mounted on her deck a new 8-inch B.L. Armstrong gun, and, in honour of their latest success, renamed her the *Angamos*.†

VI. THE INVASION OF PERU

62. At that time the allied armies at Arica and to the southward consisted of about 20,000 men; the Chilian army at Antofagasta, better drilled and equipped, of 16,000.

63. About 7,000 men of the Chilian army, under General Escala, left Antofagasta in ten or twelve transports of various descriptions, and, escorted by the available men-of-war under Commodore Riveros, appeared off Pisagua on the morning of November 2nd.

64. Pisagua lies at the foot of a very steep bluff 1,200 feet high. The zigzag ways to the top of this were protected by rifle-pits, and their angles were covered by redoubts. At the summit, in the Hospicio, were 1,200 Bolivians under Colonel Granier. In the town below were 400 men under General Buendia himself. The place and

* The money, or part of it, was expended, instead, in the purchase in Germany of the 1,700-ton twin-screw iron steamers *Socrates* (renamed *Lima*) and *Diogenes*, each of which was armed with a couple of 6-inch B.L. guns.

† Of 1,180 tons displacement and 1,480 indicated horse-power, built at Glasgow in 1876.

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landing were defended by two batteries with 100-pounder rifled muzzle-loaders ; and several lines of rifle-pits commanded the beach. The Chilian plan of attack included the landing of a large flanking-force at Junin, an undefended spot some miles down the coast, and a preliminary direct landing before the town.

65. For the direct landing 700 men were sent in boats towards a point a little to the north of the town, while the ships opened on the batteries and rifle-pits. This attempt was repulsed. A second force of similar size was then sent towards the south end of the town. This not only made good its footing on shore, but did a remarkable piece of work. Assisted by the naval officers and men—who, rather rashly perhaps, deserted their boats, and left them so that they could not even be utilised for the bringing of reinforcements to land—the troops quickly carried the town, and, not content with that, stormed the bluff step by step, fighting magnificently. The ships co-operated by shelling the heights in front of the assailants. In two hours the heights were won and the allies were in retreat, leaving behind them a large quantity of stores. So precipitately did they flee that they did not so much as disable the rolling-stock or lines of the railway to Zabiga, along which they withdrew. Riveros promptly landed his main body, and sent some of his transports back for reinforcements. When the troops from Junin reached the Hospicio, they found it already taken, but the storming-party had paid heavily for its gallantry. It had lost half its strength.

66. The allies fell back to La Noria, where they were joined by troops from Iquiqui, Molle, and elsewhere, until General Buendia had about 10,000 men with him. General Escala occupied Agua Santa and the San Francisco heights, and established his headquarters at Las Pampas. President Prado ordered General Daza, with 3,000 Bolivians, to reinforce Buendia overland from Arica ; but this body became demoralised while on the march, and turned back ; and Buendia, still believing that he might expect it, and finding

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himself short of supplies, advanced once more against the invaders. On November 19th he drove back their posts from Agua Santa, and halted to refresh at the foot of the San Francisco heights. While the main body lay there, a reconnoissance was ordered. Owing to some mistake, a charge instead of a reconnoissance was executed ; and although the small body of allies behaved admirably, it was driven back by the Chilian artillery, Gatlings, and small-arms. The retirement of this body upon the main force demoralised it, and threw it into terrible confusion. The allies, in their excitement, fired into one another, and a bloody rout took place. The Chilians did not move ; but, as a consequence of this affair, the Bolivians went back to their own territory, and the remaining Peruvians, under Colonel Suarez, retired to Tarapacá. Simultaneously Iquiqui was evacuated ; and on November 22nd it was occupied by a Chilian regiment, supported by the *Almirante Cochrane*.

67. In the meantime the *O'Higgins* and *Magellanes* had appeared off Mollendo, and, by cutting the cable, had severed telegraphic communication between Arica and Lima ; and, on November 18th, the *Blanco Encalada* had captured the Peruvian gun-vessel *Pilcomayo*, which her commander, Señor Ferreyras, had made several attempts to destroy, and which, in consequence, was in a very damaged condition.

68. On the day after the rout of San Francisco a Chilian reconnoitring force 2,000 strong unwisely pushed up to the heights above Tarapacá, and bivouacked without pickets, whereupon the Peruvians, who had already left the town, returned, fell upon them, defeated them, and captured a light battery of Krupp guns ; but, being short of ammunition, then fell back upon Arica, where about 3,000 of them arrived in a very deplorable condition. General Buendia and Colonel Suarez, his chief of staff, were put under arrest. This gave Chili possession of the province of Tarapacá. The Chilian commanders left only a small body of troops in the town of that name, and concentrated their main body at

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Pisagua and Iquiqui, where business at once began to revive. They also brought up reinforcements, until their army at the front numbered about 17,000 men ; but small-pox and the heat of summer soon made great gaps in it. As for the fleet, it moved up and down the coast, keeping watch on Mollendo, and blockading Arica, Islay, and Ylo Ylo. The blockade cut off Arica from communication with the north, except by mule-path. General Daza, with about 3,000 men, was at Tacna. President Prado, on November 29th, had suddenly returned to Lima, leaving Admiral Montero in command of about 4,000 men at Arica.

69. But it was not easy effectually to blockade so considerable an extent of coast ; and the *Union*, which left Callao on December 17th with ammunition and stores intended to be landed as near as possible to Arica, managed to put her cargo ashore at Ylo Ylo, whence it was taken by rail to Moquegua, and thence on mule-back to its destination.

70. President Prado's desertion of the army had not improved the spirits either of the troops in the field or of the allies at home. His desertion of the country followed on the evening of December 19th, when he quitted Callao unexpectedly. It was afterwards announced that he had proceeded abroad to purchase war-material. Whether this was his sole object seems to be unknown. All that is certain is that he went to the United States. Señor La Puerta, who was in bad health, succeeded to the Presidency of Peru, and the Minister of War, General La Coterá, a man of great courage and bravery, became the most active personage in the conduct of the government ; but on December 21st a revolution broke out under the leadership of Dr. Nicolás Pierola, the colonel of a newly raised regiment, and an ex-minister ; and La Coterá and his supporters found themselves shut up in a palace and obliged to capitulate. Soon afterwards a revolution in Bolivia displaced General Daza, who fled to Peru, in favour of General Campero ; and Colonel Camacho, by *pronunciamiento*,

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declared himself Bolivian commander-in-chief. Thus, on the side of the allies, there was nothing but disunion and self-seeking ; while, on the side of Chili, determination, combination, and activity became daily more and more marked.

71. The *Blanco Encalada*, *Amazonas*, and other craft visited the guano deposits at the Lobos Islands, where, as also at Independencia Bay, they stopped the shipments ; and the *Amazonas* captured a large torpedo-boat, which had been sent in sections across the isthmus to Panama, and there put together and allowed to proceed to sea. On the Peruvian side the *Union*, *Atahualpa*, and remaining transports were moved into shoal water behind the mole at Callao, so great was the moral effect of the Chilean successes at sea. An attempt was made, on January 6th, 1880, by landing 600 men at Ylo Ylo and sending them up by train to Moquegua, to overtake the stores which had been brought by the *Union* and were destined for Arica ; but the expedition arrived too late to accomplish its object. On the following day, however, fortune favoured the Chilean cause with a landslip, which blocked the Oroya railway, and closed communication between Lima, in the interior.

72. The next operation of the Chileans was undertaken with the object of cutting off the Peruvian army at Arica. On February 24th, 1880, they embarked about 12,000 men in 20 transports at Pisagua, and, on the day following, disembarked 3,000 men at Vitor, 20 miles south of Pacocha, and 9,000 infantry and 600 cavalry at Pacocha itself. Pacocha, close to Ylo Ylo, is the seaport of Moquegua, to which it was united by railway, and is about 60 miles north of Arica. The transports then returned to the south for provisions, stores, and water for the contemplated desert march. On their reappearance the advanced guard * of the expeditionary force started inland under General Baquedano. This was on March 12th. On March 15th Alto-del-Conde was reached. On March 19th Catalina was seized. On March 20th Moquegua was occupied without resistance, Colonel Gamarro, who

* Infantry, 4 regiments ; cavalry, 2 squadrons ; guns, 18.

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had been the Peruvian officer in command there, having withdrawn with his 2,000 men to Los Angeles, and there entrenched himself in a strong position. The Peruvian front, four miles long, was accessible only up a steep incline upwards of 1,000 feet high. The Peruvian flanks were supposed by the defenders to be altogether inaccessible. But on the 22nd the Chilians, by dint of much hard climbing, managed to make simultaneous attacks on each flank ; and the Peruvians, after a sharp fight, fell back in disorder on Ilubaya. The Chilians occupied Yacango, and on the 23rd Torata.

73. While these events were in progress, steps were wisely taken to keep engaged the attention of the Peruvian commander, Admiral Montero, at Arica, and to prevent him from sending reinforcements to Colonel Gamarro. On February 27th Arica was attacked by the *Huascar* and the *Magellanes*. The latter was soon found to be unsuitable for contending with plunging fire from heavy guns. The former, approaching the Moro, engaged the batteries on that bluff, and also fired at the *Manco Capac*, which was at anchor off the town. Early in the fight the *Huascar* received a shot in the hull, and lost seven men killed and nine wounded. She was, however, able to oblige some troops, who had endeavoured to leave the town by train, to return. Then, finding herself too seriously annoyed by the fire from the heights, she withdrew. The *Manco Capac* followed her, and the *Huascar*, returning, engaged her at 200 yards' range, and would have endeavoured to ram her, had not the Peruvian monitor been accompanied by a torpedo-boat. While circling about the *Manco Capac*, the *Huascar* lost the new foremast which had been put into her at Valparaíso, and narrowly escaped having her turret disabled by the wreckage. She also lost her commander, Captain Manuel Thompson, an officer of English descent who had gained distinction at the time of the capture of the *Covadonga* from the Spanish. He was temporarily succeeded by Lieutenant Valverde, who, having carried on the

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action without much result for an hour, took the ship once more out of range. Captain Condell, who commanded the *Magellanes* on this occasion, was transferred, after the action, to the *Huascar*.

74. Three weeks later, on March 17th, the Peruvian corvette *Union*, under Captain Villavicencio, pluckily and cleverly ran the blockade at Arica, and threw a cargo of supplies into the place. To unload and to coal she took seven hours, during the whole of which period she was exposed to a heavy fire from the blockaders. One projectile struck the deck, breaking three beams, injuring the funnel, and endangering the boilers; and the ship seemed to be doomed. But Villavicencio, resisting the advice of the shore authorities to run the *Union* aground, held on, and at 5 p.m. ran out to the southward and escaped in safety to Callao. The Chilians had expected him to make to the northward, and had left the southward route unguarded.

75. The other events of March were a new raid by the Chilians upon the Chincha Islands, where launches and chutes were destroyed; and, on the 12th, an abortive revolt against the government of Campero by Colonel Silva, the Bolivian commander at Viacha. This unsuccessful outbreak delayed the reinforcement of Gamarro at Moquegua, and led to renewed friction among the allies.

76. On April 8th preparations were completed for the advance on Tacna, and the country was thoroughly reconnoitred by the cavalry. While thus scouting, Colonel Dublé Almeida, chief of the staff, with twenty-five troopers, was surprised at Locumba by foragers under Colonel Albaracin Dublé, only four men being able to cut their way back. The first Chilean division, under Colonel Amengual, moved south by the coast roads towards Sitana, and the cavalry of the second division advanced from Moquegua towards Sinta and Sagayo in order to turn Locumba. On April 11th the first and second divisions occupied that place, and the third division moved out of Pacocha. Colonel Vergara, of the National Guard, engaged the cavalry under

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Albaracin at Sama, on April 18th, and routed it with a loss of 100 men and a large number of cattle destined for the garrison of Tacna. The Chilian horse then pushed on unopposed until it was close to Tacna; and on April 18th the fourth Chilian division advanced from Pacocha.

VII. THE BOMBARDMENT OF CALLAO

77. In the meantime, encouraged by the success of the *Union's* gallant dash, the Peruvian armed transport *Oroya* went southward from Callao with a quantity of munitions of war, including 7,000 rifles and 20 Krupp and Armstrong field-guns. These she landed safely at Islay, whence they were forwarded to General Benigolea's army of about 7,000 men, that lay in the neighbourhood of Arequipa. From Islay the *Oroya* proceeded to Tocopilla, where she captured the small steamer *Duende*, belonging to the Nitrate Company, and, returning northward again, reached Callao on April 9th.

78. On that day the Chilian squadron, under Rear-Admiral Riveros, was already on its way towards Callao. It consisted of the *Blanco Encalada* (flag), *Huascar*, *Angamos*, *Pilcomayo*, *Mathias Cousiño*, *Guacolda*, and *Janequeo*. At 3 p.m. the two torpedo-boats last named, under convoy of the *Huascar*, pushed on ahead. The *Guacolda*, Lieut.-Commander Luis A. Goñi, broke down and lost her consorts, but, being found by the fleet at 8 p.m., was repaired, and then proceeded again, arriving alone off San Lorenzo Island at 1 a.m. on April 10th. After waiting for an hour for the *Janequeo*, which, as appeared later, had gone in error ten miles too far to the northward, Goñi decided to run in towards the Peruvian ships. Approaching the man-of-war anchorage from the southward, he made out some neutral war-vessels. Soon afterwards, owing to the darkness, he collided with and sank a fishing-boat, out of which he saved three men, whom he obliged to point out the position of the *Union*, which,

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with the *Atahualpa*, *Chalaco*, and *Oroya*, was at anchor outside the Muelle d'Arsena, or stone docks. Goñi's attempt was strangely like the less unsuccessful foray which, about eleven years later, destroyed his own ship, the *Blanco Encalada*, in Caldera Bay. Villavicencio had moored his vessel and surrounded her with a strong boom. Goñi, in his encounter with the fishing-boat, had lost one of his torpedo-spars, and, when he had used his remaining one to explode a charge against the boom, he was powerless to injure the ship herself, although he opened an excellent passage to her. As the *Union* at once began a smart small-arm and machine-gun fire, the *Guacolda* presently withdrew. This lesson was not lost upon the Peruvians, who, on the following day, moored the *Union*, *Rimac*, *Chalaco*, *Oroya*, and *Atahualpa* behind the breakwater of the stone docks, where the *Talisman*, *Apurimac* (old wooden frigate), *Marañon* (school-hulk), and several small craft had previously been placed.

79. At 6 a.m. on April 10th Rear-Admiral Riveros appeared off Callao, and, by flag of truce, announced to the senior Peruvian officer that the port and the bays in its vicinity were to be blockaded; that eight days would be allowed for the removal of neutral merchant-ships; and that, since, at any moment, the bombardment of the place might become necessary, non-combatants should depart to a place of safety. Similar notices were sent to the *doyen* of the consular body, and to the senior foreign naval officer. The consuls asked for fifteen days for the removal of neutral vessels, and for special warning of any impending bombardment. Rear-Admiral Riveros granted ten days for the clearing out of ships, and undertook not to begin hostilities until after the expiration, on April 20th, of the period of grace, but declared that in his opinion his original notice afforded ample opportunity for non-combatants to leave. Most of these soon departed; nearly all the shops were speedily closed; and the transaction of general business was transferred to Lima. In the town ambulances

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and fire services were organised ; boating after sunset was forbidden ; and, famine being apprehended, a decree was issued on April 14th to fix the prices of provisions.

80. The defences of Callao—exclusive of the men-of-war, whose guns were almost entirely masked by the stone breakwater—then consisted of a series of batteries, representative of miscellaneous systems and periods, extending in the form of a crescent round the shores of the bay for a distance of about three miles, the town occupying the middle point. The most southerly work, situated at the end of the point, and having the best command of the usual Chilian position, was called Dos de Mayo, and had been newly finished. It consisted of a great pit excavated in the gravel, the inside faces being riveted with sand-bags. The gun-platforms were on heavy crib-work supported on piles, and were themselves of stone. Here were two 20-inch smooth-bore Rodman muzzle-loaders,* mounted on ordinary United States' service iron carriages, furnished with additional compressors. Extreme charges were used in these guns, but the powder was indifferent. The work commanded about seven-eighths of the horizon, including the Bays of Callao and Chorillos, and the Boqueron Passage between them. The next two batteries were similar in construction. One faced Callao Bay, the other Chorillos Bay. They were named Pierola and Tarapaca, and each held two 15-inch smooth-bore Dahlgren muzzle-loaders. Then in order came the Torre del Merced, a revolving turret, mounted on masonry, and containing two 10-inch rifled Armstrong muzzle-loaders. Then an old brick fort, called Santa Rosa, with two 11-inch rifled Blakely muzzle-loaders. This was flanked by batteries armed with old-fashioned 32-pounders, some of which were very ancient bronze pieces. In the town itself was the castle, the only significant portions of which were two masonry towers, each armed with two 11-inch rifled Blakely muzzle-loaders.

* Some accounts make one to have been a Rodman and one a Dahlgren. See Par. 32.

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On the sea-pier or mole, protected by sand-bags, were five 15-inch smooth-bore Dahlgren muzzle-loaders, two 11-inch smooth-bore Dahlgren muzzle-loaders, and two 32-pounders. On the right of the town was Ayacucho Fort, similar to Santa Rosa, but containing one 15-inch smooth-bore Dahlgren muzzle-loader, and one 11-inch rifled Blakely muzzle-loader. Next came a revolving turret called Junin, with two 10-inch rifled Armstrong muzzle-loaders, and, on the extreme right, or north, a new sand-bag battery called Rimac, with four 15-inch smooth-bore Dahlgren muzzle-loaders.

81. On April 20th, at noon, when the ten days' grace expired, all the foreign merchant-ships had departed, and the foreign men-of-war had moved to a position off the River Rimac, out of the line of fire. To the same position had been towed several hulks, which were fitted and provisioned to receive refugees, in case of an attack being made upon Lima.

82. On April 22nd, at 1.30 p.m., the Chilean squadron weighed from its moorings near San Lorenzo Island, and stood over towards the batteries. The *Pilcomayo* took a position north of the centre of the bay; next to her, to the southward, was the *Angamos*, and then the *Huascar*. The two former had in them the then new Armstrong rifled breech-loaders. The *Blanco Encalada* was held in reserve. At 2.5 p.m. the *Huascar* opened fire, and was soon followed by the *Pilcomayo* and the *Angamos*. All aimed at the ships behind the mole, the distance being between 5,000 and 7,000 yards. The firing was good, and few shells failed to burst. The Peruvians replied from seventeen heavy guns on shore, and from the pivot-guns of the *Union*, but their projectiles fell short. The action continued until 4.50 p.m., when the *Blanco Encalada* signalled the recall.

83. The Chileans expended 170 projectiles; the Peruvians 127, of which 78 were thrown from the *Union's* Armstrong rifled muzzle-loaders. A shell burst in the hold of the *Marañon*, and the *Rimac*, *Talisman*, *Chalaco*, and *Union*

THE WAR BETWEEN

were each struck more than once. Several shells also, passing over the ships, burst in the Oroya railway station and in the town beyond.

84. The Chilian ships were not risked, and the affair was probably intended by Rear-Admiral Riveros as a practical demonstration of the power of his new guns, rather than as an effort to destroy ships, which, if the place fell, would become his. The great range at which he fought was dictated not less by his desire to spare his own vessels than by his apprehensions of Peruvian torpedoes, for which his officers were continually on the look-out.

85. Off the end of San Lorenzo Island he had laid down permanent moorings, and there his ships generally rode in the daytime, getting under way at night, and leaving two small craft to guard the moorings. He also kept two torpedo-boats patrolling the bay at night, and these, in thick weather, frequently ran close in to the mole, or among the foreign men-of-war. Such stationary mines as the Peruvians had seem to have been close to the shore; but it is doubtful whether they laid many of them. On the other hand, they had several regular torpedo-boats, and a number of launches and small tugs that were fitted up for torpedo work. Some of these were occasionally employed as guard-boats. The Peruvians also had Lay torpedoes. One of their Herreshoff boats collided with the mole and sank, and a serious explosion took place in their torpedo factory at Ancon on May 1st. But though they made elaborate preparations for blowing up hostile ships, they effected little.

86. At 7 a.m., on May 5th, the *Amazonas*, which was patrolling in the bay, discovered two small buoys covered with shields, floating, not far apart, about eighteen inches out of the water. Having inspected them, the *Amazonas* reported to the admiral, who sent in the *Guacolda*, which, with a machine-gun, fired at one, and caused it to explode with great violence. The other, upon being towed ashore,

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burst as it grounded. Most commendable caution seems to have been observed in dealing with these infernal machines.

87. The bombardment was renewed on May 10th. At 1.25 p.m. the *Blanco Encalada*, *Huascar*, *Pilcomayo*, *Amazonas*, and *Angamos* unmoored and steamed towards the batteries, and the *O'Higgins* entered the Boqueron Passage to shell the Dos de Mayo battery from a distance of 4,500 yards, the flagship placing herself, with the same aim, about 4,000 yards from the work. The *Huascar* took the head of the line, somewhat north of the centre of the bay, with the *Pilcomayo*, *Amazonas*, and *Angamos* between her and the *Blanco Encalada*. The objects of attack were the vessels behind the mole. The range was about 5,500 yards.

88. Later in the afternoon the *Huascar*, having filled her double bottom with water, and so reduced her free-board to about two feet, diminished the range to 3,000 yards. At that distance, as she rolled, she was pierced by a Peruvian projectile, and, had it not been for her water-tight bulkheads, would probably have sunk. Two other shots glanced from her, and a fourth cut her main rigging. With these exceptions, the attack suffered no injury. Fearing the effect of the 20-inch projectiles on the monitor, Admiral Riveros had stationed her farthest from the Dos de Mayo battery.

89. The action continued until 4.45 p.m., when the Chilians had fired 400 rounds and the Peruvians 200. The latter experienced little more damage than the former. A shell set the *Union* on fire, but the conflagration was soon extinguished. A small prize barque, the *Saucy Jack*, was sunk. A boat going to rescue her crew was struck, and two of her people were killed and four wounded. Seventy per cent. of the Chilean projectiles struck within the mole, or passed over it; yet not many shells burst in the town, and only about twenty Peruvians were killed in all. The broadside guns of the *O'Higgins*,

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however, several times drove the men away from the 20-inch guns.

90. On May 25th, at 2.30 a.m., an old Peruvian steam-launch, that had formerly belonged to the *Independencia*, was moving about outside the mole, under the command of Lieutenant Galvez, who had with him sixteen men. The launch had a Gardner gun in the bow, and a 2-inch B.L. gun in the stern. She suddenly sighted the Chilian Thornycroft torpedo-boat *Guacolda*, an 11-knot craft, fitted with a spar-torpedo right ahead, and another on each bow. The Peruvian at once made at full speed for the shelter of the mole. Another Chilian torpedo-boat, the Yarrow-built craft *Janequeo*, with a speed of eighteen knots, joined in the chase, and, passing the *Guacolda*, easily caught up the enemy, and exploded her bow torpedo under her counter. Simultaneously Lieutenant Galvez, assisted by Surgeon Uriarte, exploded against the *Janequeo* another torpedo, which killed two men and opened a large leak. Lieutenant Senoret, of the *Janequeo*, got his craft alongside a lighter, where she sank. Lieutenant Goñi, in the *Guacolda*, was ignorant of the fate of his consort, and continued the chase, the launch keeping up a vigorous fire from her after gun and small-arms. But finding at last that they were going down, the Peruvians ceased firing and surrendered. Lieutenant Goñi, by means of his dingey, saved Lieutenant Galvez, who was badly wounded, and seven of the crew. Then, supposing the *Janequeo* to have returned to the fleet, he went back to the flagship with his wounded and prisoners; but, learning that the *Janequeo* had not reappeared, he steamed off in search of her. As he approached the floating-dock, he met Lieutenant Senoret and his crew coming out in two small boats which they had seized alongside the hulk *Callao*.

91. On the morning of May 27th, while Lieutenant Galvez, who had been released on account of the severity of his injuries, was being carried ashore in a Peruvian flag-of-truce boat, the Chilians discovered that two of

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the enemy's launches were endeavouring to grapple for the *Janequeo*, with the object of weighing her. The *Huascar* thereupon steamed in, and was fired at by the shore batteries. She headed for the mole, and the Peruvian launches took to flight. At 10.42 a.m. she opened fire, and at 11.2 the *Angamos*, at a range of four miles, also opened. The distance of the *Huascar* varied from two and three-quarters to three miles; that of the *Angamos* from three and a half to four and a half miles. A house was burnt and several persons were killed. Later in the day the Peruvians made another effort to raise the torpedo-boat, but were again driven off, this time by the *Angamos*, which, under cover of the foreign ships of war, drew quite close to them. Early on May 30th the *Guacolda* settled the matter in dispute, driving off the Peruvians and blowing up the wreck of the *Janequeo* by sending down a diver with a hand-charge. But she did not do this undisturbed. The Peruvians returned, reinforced by other launches and a small tug, all armed with 2-inch or 3-inch B.L. and machine-guns. The *Guacolda* withdrew at full speed, not, however, until the enemy had opened fire within pistol-shot of her. The affair led to a general engagement on a small scale.

92. At 6.42 a.m. the *Pilcomayo* began to bombard the vessels behind the mole, and was presently joined by the *Huascar* and *Angamos*. In reply all the shore batteries opened energetically. The Chilians kept at long range, the *Huascar* at from 6,500 to 7,100, the *Pilcomayo* at from 6,300 to 6,800, and the *Angamos* at about 7,100 yards. The last made excellent practice. These ranges were far too great for the Peruvians, who towed the *Atahualpa* out for about 900 yards. Even then, however, her shot fell a mile short. The Chilians, in the end, sank the school-ship *Tumbez* and a hulk containing 700 tons of Government coal. At that time the general blockade elsewhere was maintained by the *O'Higgins* between Ancon and Chancay, the *Chacabuco* and *Covadonga* off

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the coast of Arequipa, and the *Almirante Cochrane* and *Magellanes* off Arica.

VIII. THE CHILIAN ADVANCE ON SHORE

93. It has been shown that the Chilian advance on Tacna began in the second week of April with the movement of the first division towards Sitana, and that the fourth or last division left Pacocha on April 18th. As soon as the main body had reached Sama, the maritime base was transferred to Ite, a little harbour about twenty-four miles from Sama, and connected with it by good roads. Reinforcements were brought up from Pisagua, and the sick and wounded were sent southward.

94. General Campero, President of Bolivia, with between 2,000 and 3,000 men, had joined Admiral Montero, and had taken the command of the 14,000 allies at Tacna. Further succour was expected from General Benigolea, whose men near Arequipa had been well supplied with arms and other necessities from the stores brought by the *Oroya*. Admiral Montero commanded the allied right, which was composed of Peruvians; General Camacho the left, which consisted of Bolivians. The Chilian army, about equal in numbers, was under General Baquedano. As the navy bore no share in this part of the operations, the allied positions need not be described here. It will suffice to say that, on the morning of May 26th, the Chilians, having prepared the way by means of a heavy artillery fire, moved forward their first and second divisions, which deployed at the base of the slope held by the enemy, and charged up it, the first division attacking that part of the line in possession of the Bolivians, and driving them back with loss of their artillery, but the second division, opposed by the whole force of the Peruvians, being checked after it had delivered its first assault. In this Lieut.-Colonel Canto and the second regiment of regulars greatly

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distinguished themselves. The third and fourth divisions, which ought to have reinforced the fighting-line at that moment, had been delayed in their advance, and, though the Chilians behaved admirably, things were looking exceedingly black for them up to half an hour after noon, when the third division turned up. This, which contained marines, enabled the attack to resume the offensive. Soon afterwards the fourth division also arrived. At 1 o'clock a general advance was made; and soon the allies were in full retreat through Tacna for the mountains. The Chilian loss was 2,000 men; one at least of the Bolivian regiments was almost annihilated; and the Peruvians lost 1,000 killed and 1,500 wounded. Only 400 prisoners were taken by the victors.

95. Immediately after the action the Chilian cavalry pushed seaward along the railway towards Arica, and, in the course of the night, reached the River Chacayuta, the bridge over which had been destroyed by the Peruvians. The approach to the bridge had, moreover, been sown with dynamite mines, one of which exploded ineffectually as the Chilians drew near, the electrician being confused by the darkness. He was searched for, and discovered in the hut where his firing-board was established, and by that means nine other mines were traced and unearthed. On June 2nd the Chilian reserve division, composed of three regiments of regulars and the Bulnes battalion, followed as far as the bridge.

IX. THE CAPTURE OF ARICA

96. Arica stands by the sea on a sandy plain. South of the town, rising out of the plain, is a hill called the Moro. The sea-face and north and south sides of this hill are almost precipitous, and reach a height of about 1,200 feet. The east or land side is a gradual slope. The plateau at the hill-top was crowned with sand-bag batteries mounted with heavy guns, and formed the citadel of the defence.

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Round the three land sides of the hill and town was a line of forts and trenches. A Peruvian of Italian descent, Colonel Bolognesi, commanded the garrison, which comprised about 2,000 men fit for duty, besides a number of sick and wounded. In addition to the land defences, the monitor *Manco Capac*, which was anchored off the north fort, under Captain Lagomarsino, assisted in strengthening the place.

97. By June 5th the town was invested on the land side by the reinforced reserve division of the Chilians, and from the sea by the *Almirante Cochrane*, *Magellanes*, *Covadonga*, and *Loa*, under Captain Latorre. Bolognesi, summoned to surrender, declined to do so; and on the following day the Chilian field-batteries opened fire at 7,000 yards. They were, however, soon silenced by the heavy guns of the Peruvians, and the squadron had to interfere, the *Almirante Cochrane*, 1,000 yards from the Moro, being in the centre of the bay, the *Magellanes* and *Covadonga* choosing a 2,500 yards' range, and the *Loa* firing from 8,000 yards. The batteries on shore and the *Manco Capac* replied. The *Covadonga* was twice struck near the water-line by 150-lb. projectiles, and badly damaged. A shell entered one of the *Almirante Cochrane's* ports, and, bursting, exploded two cartridges, and wounded twenty-seven men. When, therefore, after four hours' work, the ships had delivered eighty rounds and had been fired at seventy-four times, they withdrew until the next day, on which an assault was to be attempted.

98. At daylight on June 7th the assault was made, and by 7 a.m. the Peruvians held only the east forts and the Moro. A little later one of the east forts commanding the Moro was also captured, whereupon the other east forts were abandoned. Bolognesi, assisted by Captain Moore, who had commanded the *Independencia*, made a magnificent defence of the citadel, but finally succumbed. Seeing the fall of the Moro, Captain Lagomarsino blew up the *Manco Capac*, whose crew gave themselves up on board the

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transport *Itata*. A torpedo-boat, which tried to get away, was driven ashore by the *Toro*, and there blown up by her people. Thus Chili conquered the entire sea-board of Bolivia and the Peruvian province of Moquegua, destroyed the allied army of the south, and sealed up Callao and the chief seaports of the north; and, summer having come, the Chilian main army rested for a season. But, even during the heat of summer, the Chilian navy was not wholly inactive.

99. On July 3rd a small coaster, or "Huacho packet," left Callao, and made her way to the northward, keeping close inshore. The *Loa*, which, after the fall of Arica, had been attached to the blockading squadron, was sent in chase. Soon afterwards three men were observed to leave the coaster in a boat, and to land through the surf. The *Loa* overhauled the craft, and took possession of her. She was found to be loaded with fruit, vegetables, and poultry, all of which would be welcome to the blockaders. While she was being unloaded alongside the *Loa*, a frightful explosion took place, and the armed transport speedily sank by the stern, heeling to port, but, when she reached the bottom, righting, with her mast-heads above water. This sudden catastrophe involved the loss of 145 out of 200 officers and men. It was occasioned, it is supposed, by the presence on board the coaster of a large case of dynamite fitted with friction-tubes, from which wires led to various of the packages constituting the cargo. It is probable that the moving of these packages caused the disaster, which blew a large hole in the side of the *Loa*. In war-time too much caution can hardly be displayed in dealing with such possible "Greek gifts." It is wise to sink them by gun-fire from a safe distance.

100. The blockade, like most blockades, was not completely effective. War material of all kinds still found its way into Peruvian ports, and some even into Callao, which was more closely watched than any other place.

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X. THE CHILIAN INVASION BY SEA

101. On August 24th the neutral men-of-war began to transport refugees from Callao to Chimbote, which thenceforward became the terminus of the service of the Pacific Steam Navigation Company.

102. On August 30th and 31st, and on September 1st, the *Angamos* engaged the batteries, chiefly at a range of four miles, and on the last of the three days the *Union's* boilers were struck, and the torpedo-depôt hulk was sunk. The shore batteries on each day returned the fire, but their projectiles fell a mile short. On September 3rd the *Blanco Encalada*, *O'Higgins*, and *Angamos* joined in the bombardment. Several Peruvian tugs ventured out, apparently with the intention of making a torpedo attack; but they effected nothing; and the largest, as she again withdrew behind the mole, was sunk by a shot from the *Angamos*. On October 26th the *Huascar*, which had been to Valparaiso to receive two new 8-inch 180-pounder B.L. Armstrong guns of the most recent type, arrived at Arica, and thence joined the Chilean squadron off Callao. On November 3rd she tried these guns at four miles' range, and on that occasion the Peruvians also made use of a better gun than they had ever previously employed. Six days later, on November 9th, all but two vessels of the blockading force quitted Callao for the southward, in order to convoy the transports which were then about to steam north. Two of these transports presently landed about 2,000 men on San Lorenzo Island, off Callao.

103. In the meanwhile much had been done elsewhere. On September 10th a Chilean division, about 3,000 strong, under "Colonel" Patricio Lynch,* a captain in the navy, landed at Chimbote, occupied the railway station and telegraph office, and marched inland to a large sugar

* Lynch's services to his country were commemorated in the name given to the Chilean torpedo gun-vessel *Almirante Lynch*, launched in 1890.

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plantation called Palo Seco, where, as the heavy ransom which they demanded was refused, they burnt the magnificent hacienda, and destroyed all the machinery. On September 16th two Chilian vessels paid a visit to Supe, about eighty miles north of Callao, and seized all the provisions in the place. On September 18th "Colonel" Lynch's division landed at Paita, the port of Piura, and the most northerly port of Peru, and burnt the custom-house and other Government property. On September 22nd the *Almirante Cochrane* and the *Tolten* bombarded Chorillos, a watering-place on a bay of the same name, about nine miles south-west of Lima; and on September 23rd the Chilians similarly treated the town of Chancay, the watering-place of Ancon.

104. A few days earlier, on September 13th, a dreadful incident, recalling the disaster to the *Loa*, and teaching a similar lesson, had occurred off this little port, which lies north of Callao. The *Covadonga*, on blockade duty there, observed an empty gig adrift, and sent a boat to examine her. The work was thoroughly done, apparently; yet, when the gig had been brought alongside the ship, and strain began to be put upon the tackles which had been hooked on in order to hoist her inboard, an explosion immediately resulted. The *Covadonga's* side was blown in, and she sank almost instantly. It is conjectured that the gig was fitted with a false keel packed with dynamite, and fitted with an igniter connected with the after tackle.

105. About November 1st "Colonel" Lynch's force landed at Quilca, intending to capture Arequipa; but, it being discovered that General Benigolea, with a strong body, was still in the neighbourhood, the expedition re-embarked. At that period preparations were being completed at Arica for the transport north of the Chilian army, and most of the troops were moved down from Tacna.

106. On November 18th about 7,000 Chilians landed at Pisco and marched to Chinchas. President Pierola

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relinquished the government to Señor La Puerta, and took the direction of the allied army in the field. The neutral ships at Callao prepared to shift their anchorage to the northward, so as no longer to afford a screen for the Chilean torpedo boats and reconnoitring launches; and numbers of refugees left for the north. On the 24th the blockading squadron consisted of the *Almirante Cochrane*, the *Huascar*, and the *Princess Louise*. On the day following a meeting of the senior foreign naval officers off the port took place. It was decided to make arrangements for the removal to Ancon of the refugee-hulks, and to request permission to send representatives* to the headquarters of both belligerents, in order to observe the further progress of the operations.

107. Early on December 6th three Chilean torpedo-launches were fired upon by an armed Peruvian tug. The Chilean boats chased, and opened a hot fire from their machine-guns, the tug heading for the shore, but replying. When the launches were within range, the shore batteries joined in, some of their shots falling close to the neutral ships. To cover the launches, the *Huascar* and the *Princess Louise* engaged the batteries. No harm was done on either side, except to the Chilean launch *Fresia*, which was so badly hit about the stern that she sank in fifteen fathoms of water, off San Lorenzo, alongside of a vessel to which she had been previously secured by chains. Ere the end of the affair five torpedo-launches in all took part in it, but no torpedoes were made use of.

108. On December 11th the monitor *Atahualpa*, accompanied by a tug, went about a mile outside the mole, and was engaged at long range by the *Huascar*, *Pilcomayo*, *Angamos*, and *Chacabuco*. During this action the 180-pounder B.L. Armstrong (newest model) of the *Angamos*

* Lieut.-Commander D. W. Mullan, U.S.N., of the *Adams*, subsequently went, with other foreign officers, to Pisco in H.M.S. *Osprey* to join the Chileans; and Lieutenant N. T. Houston, U.S.N., of the *Lackawanna*, joined General Pierola. Of the reports of these officers I have made, I fear, almost unbridled use.

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slipped out of its trunnion-bands, flew bodily to the rear, and went overboard, killing the captain of the gun and a lieutenant who had come from one of the other ships in order to take a few shots with it, and wounding several men. The action had otherwise no results. A slight movement between the gun and the trunnion-band had been noticed before the firing, but it had not been deemed sufficiently important to warrant the temporary condemnation of the weapon.

109. Soon afterwards the refugee-hulks, by permission of the Chilian admiral, were removed to Ancon, which, like the hulks, speedily became crowded with fugitives.

110. On January 3rd, 1881, an unsuccessful attempt was made to blow up the *Huascar* by means of a Lay torpedo worked from a tug, the commander of which, however, either lost heart or repented in season, for he took his vessel to Ancon Bay, where he beached her and destroyed the torpedo. The tug was found and demolished next morning by the *Pilcomayo*, *Tolten*, and a torpedo-boat. During the process of demolition the Chilian shells set fire to the town of Ancon, a railway battery near the place replying, but without effect.

111. The Chilian army for operations against Lima was commanded by General Baquedano, who was accompanied by the Minister of War, Señor Don José Francisco Vergara. It was organised into three divisions and a brigade of reserves, each division consisting of two brigades, and the artillery and cavalry being about equally divided among the divisions, none of these being with the reserve brigade. The strength of the divisions was :

I. 8,241 men of all arms, under "Colonel" Patricio Lynch, C.N.

II. 6,405 men of all arms, under General Sotomayor.

III. 5,873 men of all arms, under Colonel Pedro Lagos. Reserve, 3,110 (infantry, gendarmerie, engineers, etc.).

23,629

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Of these 1,370 were artillery, with twelve 12-pounder 2·95-inch R.B.L. Krupp field-guns ; six 9-pounder 2·5-inch R.B.L. Armstrongs ; twenty-three 6-pounder 2·95-inch R.B.L. Krupp mountain-guns ; twelve 6-pounder 2·3-inch R.B.L. Krupp mountain-guns ; four 6-pounder 1·57-inch R.B.L. Krupp mountain-guns ; six Gatling machine-guns (sixty-three guns in all), and about 1,200 horses. The cavalry numbered 1,251 men and horses ; the infantry, 21,008 men. With the army was a mining or torpedo party, to search for and remove mines, or, if necessary, to place them.

112. As has been said already, a division, the First, then under the command of General Villegran, landed at Pisco on November 18th, 1880. The First Brigade, under "Colonel" Lynch, remained in the little town which constitutes the port ; the Second, under the general, moved to Pisco itself, which lies three miles inland. Part of the Second Brigade, under Colonel Amunatigui, advanced to Ica, which is forty-five miles inland, and is connected with Pisco by railway. On December 1st the First Brigade of the Second Division, under Colonel Gana, reached Pisco ; and on December 13th the First Division, having been reassembled there, set out on a northward march along the seashore. At nine next morning it had advanced only eighteen miles, to Tambo de Mora. On the 18th Lynch, with the First Brigade, set out again ; while Villegran, with the Second, returned to Pisco, General Baquedano being apparently displeased with the slowness of its movements. Villegran was then relieved of the divisional command, which was conferred upon Lynch. On December 20th the Second and Third Divisions, and on December 24th the Second Brigade of the First Division, left Pisco, and landed at Chilca and Curayaco, subsequently occupying Lurin and Pachacamac.

113. "The landing," says Lieut.-Commander Mullan, "was very expeditiously carried out, the regular ships' boats being assisted by the large flats which most of the

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ships carried, these being capable of carrying a hundred men at a time, with all their belongings. The road from Chilca to Lurin, about fifteen miles distant, was very sandy, and all transportation had to be done by packing." The main body of the army went into camp about Lurin, where the headquarters were established; but the Second Brigade of the Second Division was posted at Pachacamac, where, at about three miles from Lurin, it covered the approaches from the mountains. Gana's First Brigade of the Second Division was thrown across the River Lurin to protect the approaches from Chorillos, and to cover a bridge which had been left standing, and by which the army was to cross.

114. The rest of the story of the advance on Lima is of no special naval interest, and may be rapidly summarised. On December 27th a regiment of Peruvian cavalry, on its way to the capital, was routed with heavy loss, though part of it cut its way through. On January 6th, 1881, General Baquedano reconnoitred the Peruvian lines before Chorillos, seven miles from Lurin. On January 9th Colonel Barboza reconnoitred Até, and approached within four miles of Lima. On January 12th, at 5.30 p.m., the whole Chilean army moved in order to take up its position in front of the Peruvian lines, most of it advancing by a route believed by the defenders to be impracticable, and consequently left unguarded. This pass ran at right angles to the Peruvian left. The Peruvians were badly organised, and armed with all kinds of rifles, many of which were rusty and nearly useless. Their artillery also had all kinds of guns, some obsolete, some experimental. And the men were badly clothed and worse shod. Including the reserves, they were about 33,500 strong.

115. The defensive position was, however, good. Yet the Chilean attack, which began at dawn on January 13th, though in places furiously resisted, was successful, and by 2 o'clock in the afternoon the invaders had won the battle of Chorillos, had obtained possession of the field, had killed

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1,500 Peruvians and wounded 2,500, and had taken 4,000 prisoners, 5 standards, and 70 guns, with a loss to themselves of about 3,000 men in killed and wounded.

116. On January 14th negotiations were attempted, but Pierola would not entertain them ; yet later in the day the President had a conference with the foreign diplomatic corps in Lima, the result being that an interview with General Baquedano was arranged for 7 a.m. on January 15th. In the interval, although an armistice had been agreed to, some misunderstanding took place, and at about 2.30 p.m. a few Peruvians on the right of the defending line opened fire. To the surprise of the commanders on both sides, a general engagement followed.

117. The Chilian fleet, which had taken no part in the first day's fight, but which was anchored a little north of Miraflores, with its guns enfilading the Peruvian position, intervened, and assisted in checking the panic which at first seized the invading force. Then it turned its attention to Miraflores. The Chilians, recovering themselves quickly, doubled back the Peruvian right ; the Peruvian left was soon afterwards driven in ; and at 5 p.m. the army of President Pierola was in full flight for Lima. It never again, during the war, existed as an organised force. The men hid themselves, or changed their clothes and mingled with the people. What the Peruvian loss was is unknown : the Chilian loss was about 2,000 ; but, in return for it, they had gained all the guns, rifles, ammunition, etc., of the enemy, and an open way to be capital. Miraflores was burnt. Pierola retired to Chocas, thirty-five miles from Lima.

XI. THE COLLAPSE OF PERU

118. Lima was in a terrible condition. Anarchy reigned in the streets. General La Coteria had attempted, without success, to seize power. The legations were crowded with refugees. But for the action of the foreign men-of-war's

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men more awful deeds of violence than those which occurred might have followed ; for not until January 17th was the city even partially occupied by the victors. During the interregnum there was firing in the public places, the Chinese quarter was looted and burnt, many shops were sacked, and numerous incendiary fires burst forth, while at Callao the mob burnt or blew up the ships and batteries, and destroyed as much national and private property as possible. But by January 18th, when "Colonel" Patricio Lynch was installed as Governor of Lima, order was re-established in the capital ; and, in the meantime, the foreigners at Callao, with great determination and much severity, had put down the anarchy there.

119. After the fall of Lima, although the Peruvian cause was hopeless, guerilla warfare was persisted in for a considerable time ; but so utterly broken was the defence that General Baquedano, with 10,000 men, returned to Chili almost immediately, as did also Admiral Riveros, with most of the squadron, Captain Latorre being left, with a small force, in command off the coast.

III. THE CHILIAN REVOLUTIONARY WAR OF 1891

MORE pointedly than even the history of the war between Chili and Peru in 1879-81, does the history of the war of the Chilian Revolution of 1891 illustrate the magnitude of the influence of sea-power. The latter was a campaign in which, speaking roughly, a navy was matched against an army, and in which, the scene of action being a long extent of coast, with a narrow strip of country behind it held by one side, and an open sea in front of it held almost unchallenged by the other, the navy won, first by reducing to impotence such feeble maritime forces as were arrayed against it, and then by convoying to the neighbourhood of the most important of the enemy's towns, and there disembarking, a large body of troops, with which it co-operated in the earlier part of the final victorious advance.

Another lesson suggested by the operations is the immense value of speed in torpedo-craft, especially when they are employed in work where surprise is an essential element in their success. The best speed of the *Almirante Condell* and the *Almirante Lynch* fell, of course, very far short of the best speed of the crack torpedo-craft of the first years of the twentieth century. Vessels, such as now exist, which, in favourable weather, can steam with ease at a speed of five-and-twenty land miles an hour, may, it is obvious, put 150 or 200 miles behind them during the darkness of an ordinary night, and may appear at the first sign of dawn at some spot where the enemy, lulled into laxity, if not into absolute carelessness, by his supposed remoteness from

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his nearest foes, can be struck at with terrible effect, and, perhaps, be crippled ere he realises that he is attacked.

This particular lesson still, I think, needs digesting and applying, although, even in 1891, it was no new one. During the British naval manœuvres held in the year 1890, a deservedly great impression had been made by the exploits of a flotilla of torpedo-boats which, dashing across at full speed from Alderney, fell just before dawn upon a great fleet at anchor, under the late Sir George Tryon, at Plymouth, and, theoretically, put a large part of it out of action. I was with that fleet; and well do I recollect the effect of the surprise, and the manner in which, in the confusion of the unexpected attack, friends were mistaken for foes. In real warfare, apart from the damage wrought by the torpedo-boats, many a ship would have suffered sorely in the panic from the fire of her consorts. As for the boats, I believe that most of them would have got off unscathed.

The authorities to which I am most indebted for the following account of this interesting campaign are:

a. Numerous and very detailed private letters from British officers who were then on the station, and especially from my lamented friend, the late Captain A. F. St. Clair, R.N., who, at my request, made diligent inquiry with a view to clearing up disputed points, and who supplied me generously with the current newspapers of both parties.

b. "The Chilean Revolution of 1891," by Lieutenant James H. Sears, U.S.N., and Ensign B. W. Wells, jr., U.S.N. (Information from Abroad. War Series, No. IV. Office of Naval Intelligence, Washington, 1893).

c. The *Diario Oficial* (Balmacedist).

d. Official despatches of Don Luis A. Góñi, Don Carlos E. Moraga, Don V. M. Jarpa, and Don E. del Canto.

e. Report of a Commission presided over by Don H. M. Simpson.

f. The *Revue Maritime et Coloniale*, xcv.

g. Hervey: "Dark Days in Chile" (1892).

h. My own study in the "Naval Annual" for 1892, which

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I here utilise very fully by kind permission of Lord Brassey, K.C.B.

i. Correspondence of various European newspapers, chiefly professional and technical, and of the Iquique *Patria*.

j. Conversations and correspondence with various eye-witnesses.

k. An official report by Lieutenant Louran, of the Imperial German Navy.

l. "The Battle of La Placilla," by Captain W. S. Muse, U. S. Marine Corps (in Proceedings of U. S. Naval Institute, 1894).

In August, as the final scenes of the war approached, the fighting fell almost exclusively into the hands of the armies on shore. I need not apologise for having described at some length the admirable and carefully studied arrangements by means of which the Congressionalists transported their troops to the southward, and landed them in safety. Some apology, however, is perhaps needed for the devotion of several pages in such a work as the present to an account of the almost purely military operations which followed, and which brought the campaign to an end. My excuse is that great naval interest always attaches to the deeds of any army which has the sea for its sole base of supplies, and that, in this particular case, had the Congressionalists been seriously defeated at any point while on their march to Valparaiso, their fleet would have instantly become their only hope of salvation from complete destruction. The proximity of the fleet, therefore, and the fact of its holding command of the sea, were important factors up to the last hour of the war.

I. THE ORIGIN OF THE WAR, AND THE FORCES OF THE COMBATANTS

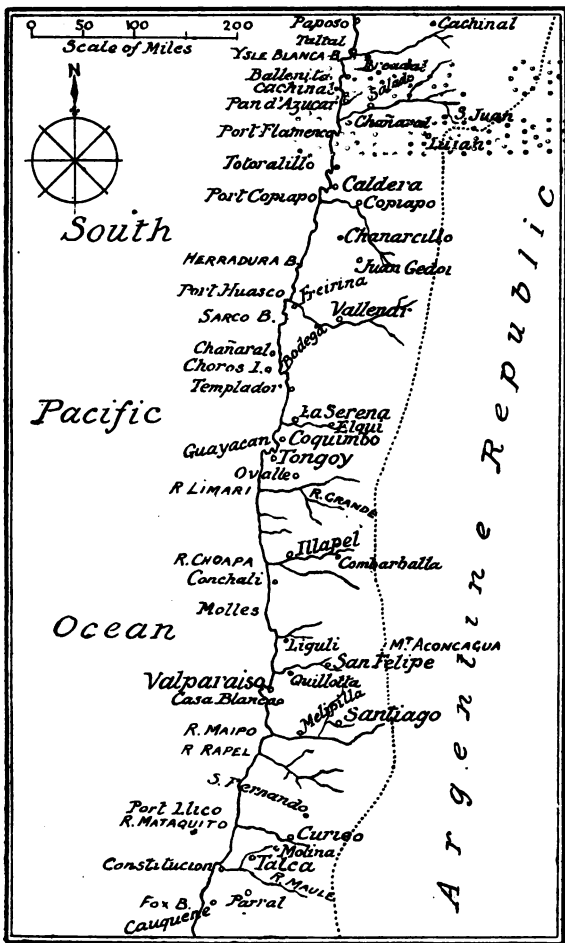
1. The revolution which occurred in Chili between January and August, 1891, arose out of the antagonism between Don J. M. Balmaceda, the President of the Republic, and the

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Liberal majority in Congress. Each side professed to have grievances against the other. The Liberals charged Balmaceda with attempting to force upon the country a successor of his own choosing ; with interfering with the election ; with forming Ministries which were not supported by the majority in Congress ; with misappropriating public funds ; with the arbitrary closing of Congress ; and with endeavouring, in defiance of the Constitution, to govern without the aid of Congress. Balmaceda's apologists declared that, although there was a Liberal majority in Congress, it was not a homogeneous majority, and was not supported by the people ; that the majority, in contravention of the Constitution, aimed at establishing "a parliamentary régime" instead of a representative one ; and that the manner in which the majority had delayed the passage of certain laws justified the President in governing without those laws, and, indeed, rendered it his duty to do so.

2. The revolt of the Congressional Party assumed an actively hostile form on January 7th, 1891, at which date nearly the whole of the army favoured the President, and nearly the whole of the navy supported the Opposition.

3. On January 6th there were lying in Valparaiso Bay, in addition to the British third-class cruiser *Champion*, Captain A. F. St. Clair, the Chilian warships *Blanco Encalada*, *Esmeralda*, *O'Higgins*, and *Magellanes*, all in commission. The *Huascar* was also there, but not in commission ; and the *Almirante Cochrane*, in commission, lay in Quinteros Bay, about eighteen miles to the northward. During the night of the 6th all the Chilian vessels that were in commission at Valparaiso put to sea ; and, having been joined by the *Almirante Cochrane*, returned on the afternoon of the 7th. For some time they steamed backwards and forwards, and then, as no notice was taken of them by the forts, they manned and armed boats, and, without resistance, took possession of the *Huascar*, which they towed across to the north-east part of the bay. There



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they put her machinery into working order, and, having completed their labours by the 10th, they manned her, and added her to the Congressional squadron. At that time the corvette *Abtao* was on her voyage home from the Mediterranean, the gunboat *Pilcomayo* was in the Straits of Magellan, the torpedo-boats of the navy were at the torpedo depôt, laid up, and the new torpedo-boat catchers, *Almirante Lynch* and *Almirante Condell*, were on their way to Chili from England, where they had been built. The above statements account for the whole of the effective ships of the Chilian Navy at the outbreak of the Revolution; and from them it will be seen that the only war-vessels which, on January 7th, were actually at the disposal of Balmaceda were the torpedo-boats. (See Table.)

4. In the meantime, on the 6th, the seceding members of Congress had drawn up a manifesto, signed by Don Waldo Silva, Vice-President of the Senate, and Don Ramon Barros Luco, President of the Chamber of Deputies. This was published on the 7th, as a supplement to the daily paper *El Heraldo*. To it was appended a copy of the formal acceptance by Captain Don Jorje Montt, of the Chilian Navy, of the command of the Congressional squadron. On the same day the Revolutionary leaders, Señores Waldo Silva, Barros Luco, and Errázuriz, deputy for Valparaíso, embarked on board the *Blanco Encalada*; and Captain Montt hoisted a broad pennant as commodore commanding-in-chief.

5. While the *Huascar* was being completed for sea, several of the vessels went to Quinteros Bay. The *Esmeralda* was presently despatched thence southward to Talcahuano to recruit and to procure arms and money, and was ordered subsequently to proceed further to the southward, so as, if possible, to intercept the home-coming *Abtao* and the torpedo-boat catchers. The rest of the squadron then devoted itself to laying hands upon as many as it could seize of the steamers of the *Compañía Sud Americana de Vapores*, with a view to utilising them as transports. The

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Aconcagua was one of the first to be taken. The *Amazonas*, after having been taken outside Valparaíso by the *Almirante Cochrane*, escaped at night by a ruse, but was retaken next day in harbour by the *Blanco Encalada*. The *Biobío* was also taken at Valparaíso, and was employed to tow coal-hulks to Quinteros. The other steamers which, in one place or another, were seized, were the *Itata*, the *Cachapoal*, the *Copiapó*, the *Limari*, the *Maulé*, the *Trumao*, the *Longavi*, and the tugs *Loa* and *Huanay*. All these belonged to the Compañía Sud Americana. In addition, two colliers of the Cousiño Company, the *Isidora de Cousiño* and the *Carlos Roberto*, were captured off Punto Curamilla, to the south of Valparaíso, and, being full of coal, were valuable. Of yet other steamers that were taken by the Congressionalists, the *Dithmarschen*, *Cachapoaleto*, *Tolten*, *Bismarck*, *Minero*, *Miraflores*, and *Huemul* may be mentioned.

6. On the other hand, the Balmacedists acquired the *Maipo*, which, however, was taken from them on the night of March 8th, ere she had done any service, the *Louis de Cousiño*, and the fine steamer *Imperial*. They also made arrangements to take over the *Mapocho*, which was chased into Callao by the *Amazonas* before she could be transferred. At Callao she was placed in Peruvian custody. Some Balmacedists* found her in the outer bay and seized her, but the Peruvians dispossessed them, and secured the *Mapocho* in the Arsenal basin, where she remained until the close of the war. (See Tables, pp. 140, 141.)

7. While making their seizures, the Congressionalists were practically unmolested; and they held complete control of Valparaíso Bay. But the Government troops held the shore, and, at intervals along the sea-wall, posted pickets behind sand-bag entrenchments. On January 9th, for the first time, these pickets opened fire, their target being a small boat which was endeavouring to escape from the shore to the ships. Thereupon the *Blanco Encalada*

* Disarmed Chilean soldiers, refugees from Arica.

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and the *O'Higgins* replied from machine-guns in their tops, and dispersed a body of cavalry which was patrolling the road on the south-west side of the bay. From that date, until the last ships of the squadron departed on the 16th, firing between the troops on the sea-wall and the picket-boats of the ships was of almost daily occurrence. During the interval the boats of H.M.S. *Champion* kept up communication with the shore during daylight, and, at the request of the Intendente, landed any mails that arrived. The boats of merchant-ships lying in the bay were also able to land at the Customs' jetty from 8 a.m. to 10 a.m. to procure provisions and to communicate with consuls and agents ; but all boats in harbour were required to fly their national colours.

8. The Congressionalist squadron did not, of course, have open dealings with the shore in the immediate vicinity of Valparaiso ; but it was well supplied with most necessities, for it had seized not only the Chilian steamers but also their cargoes, and it obtained fresh meat by sending one or other of its own vessels up the coast for cattle. The *Blanco Encalada* still lay at her accustomed buoy at the end of the line of man-of-war moorings. The *Huascar* occupied a pair of buoys inside her and abreast of the Custom-house Battery. The rest of the ships were outside, occupied either in securing supplies, or in raising recruits up and down the coast. The *Almirante Cochrane* and the *Magellanes* went north to blockade and ultimately to occupy the ports of the nitrate provinces. The *O'Higgins* and *Amazonas* took possession of Coquimbo, La Serena, and Ovalle, evacuating them, however, previous to the arrival of a division of troops which was sent thither overland from Santiago. At Coquimbo the *Esmeralda* rejoined, and presently went northward with her consorts to assist in the blockade of the coast of Tarapacá. At length the *Huascar* also departed on a mission, and the *Blanco Encalada* was left in harbour as the sole representative of the Congressionalist forces.

VESSELS AT THE DISPOSAL OF THE COMBATANTS

CLASS. I. = Iron. S. = Steel. W. = Wood.	NAME OF SHIP.	Date of Launch.	TONNAGE. D = Displacement. N. = Net. G. = Gross.	HORSE-POWER. I = Indicated. N. = Nominal.	Sea Speed in Kts.	Complement.	Torpedo-tubes.	GUWA.
I. Battleship ..	<i>Blanco Encalada</i> .*	1875	8,450 D.	3,000 I.	10	238	2	6 6-in. B., 1 12-pr. B., 4 6-pr. Q.F., 4 3-pr. Q.F., 7 M.
I. Monitor ..	<i>Almirante Ochoa</i> .*	1876	3,370 D.	2,920 I.	10	242	2	6 6-in. B., 1 12-pr. B., 4 6-pr. Q.F., 4 3-pr. Q.F., 7 M.
S. Cruiser ..	<i>Huascar</i> †	1865	1,190 D.	1,200 I.	10	134	..	2 10-in. B., 2 20-pr. B., 2 Q.F., 3 Mach.
W. Corvette ..	<i>Emirata</i> ‡	1884	2,810 D.	6,500 I.	16	..	..	2 10-in. B., 6 6-in. B., 2 6-pr. Q.F., 4 3-pr. Q.F., 4 M.
I. W. " ..	<i>O'Higgins</i> §	1866	1,670 D.	1,100 I.	9	163	..	1 17-in. M., 2 6-in. B., 2 20-pr. B., 6 Mach.
I. W. Gun-vessel ..	<i>Atacama</i>||	1864	1,060 D.	1,000 I.	8	179	..	1 17-in. M., 2 6-in. B., 2 20-pr. B., 6 Mach.
I. W. " ..	<i>Magallanes</i> ¶	1874	772 D.	1,200 I.	9	105	..	1 17-in. M., 2 6-in. B., 2 20-pr. B., 6 Mach.
I. W. " ..	<i>Pilcomayo</i> ¶	1874	600 D.	1,050 I.	8	128	..	2 10-pr. B., 2 13-pr. B., 4 Mach.
S. Torpedo Gun-vessel ..	<i>Almirante Condell</i> **	1890	750 D.	4,500 I.	17	..	6	3 14-pr. Q.F., 4 3-pr. Q.F., 4 Mach.
S. " ..	<i>Almirante Lynch</i> **	1890	750 D.	4,500 I.	17	..	6	3 14-pr. Q.F., 4 3-pr. Q.F., 4 Mach.
S. Torpedo-boat ..	<i>Sargento Alder</i> ††	1888	70 D.	800 I.	15	18	4	2 Q.F., 3 3-pr. Q.F., 4 Mach.
S. " ..	<i>Guadalupe</i> ‡‡	1881	35 D.	400 I.	15	15	4	4 4-in. B.

* Built at Hull after plans by Sir E. Reed. Central battery, twin-screw, barquentine-rigged battleships, with double bottoms, eight water-tight compartments, steam steering-gear, electric plant, and wood and zinc sheathing; ram bows; iron belt armour of 9-in. maximum thickness, battery armour of 8 in.; iron deck of from 2 to 3 in. thick. Length, 210 ft.; beam, 45 ft. 9 in.; draught, 19 ft. 8 in. Horizontal compound engines. Coal capacity, 230 tons at load water-line.

† Single-screw brig-rigged single turret ship, built at Birkenhead. Four water-tight bulkheads. Side armour, 4 1/2 in. thick; turret armour, 14 to 17 in. thick. Length, 200 ft.; beam, 35 ft.; draught, 16 ft. Simple engines. Coal capacity, 300 tons at load water-line.

‡ Deck-protected cruiser, with 14 in. steel deck. Double bottoms. Six transverse water-tight bulkheads. Built at Elswick. Coal protection. Cork belt. Length, 270 ft.; beam, 42 ft.; draught, 19 ft. Twin screws. Horizontal compound engines. Coal capacity, 600 tons at load water-line.

§ Built in London. Length, 216 ft. 6 in.; beam, 33 ft. 4 in.; draught, 18 ft. Simple engines; single screw. Coal capacity, 200 tons.

¶ Built at New York. A sister to the famous *Albatross*. Compound engines. Coal capacity, 300 tons.

** Built in England. Barquentine-rigged. Compound engines; single screw. Coal capacity, 220 tons.

†† Built at Birkenhead. Length, 230 ft.; beam, 27 ft. 6 in.; draught, 14 ft. Thirty-eight water-tight compartments. Twin screws; triple expansion engines. Coal capacity, 100 tons at load water-line.

‡‡ The *Balmacedista* also possessed three 80-ft. Yarrow boats—the *Fresca*, *Lauca*, and *Quidora*.

VESSELS AT THE DISPOSAL OF THE COMBATANTS

CLASS.	NAME OF SHIP.	Date of Launch	TONNAGE.	HORSE-POWER.	Sea Speed in Kts.	Complement.	Torpedo-tubes.	GUNS.
I = Iron. S = Steel. W = Wood.			D = Displacement. N = Net. G = Gross.	N = Nominal. I = Indicated.				
I. Barque.	<i>Aconagua</i> .*	1872	2,644 N.	600 N.	11	..	..	2 5 1-in. B., 1 40-pr. B., 2 Q.F., 4 Mach.
I. 3-masted Schooner.	<i>Cachapuel</i> .*	1881	1,440 N.	400 N.	11	..	..	1 6-in. B., 2 7-pr., 2 40-pr. B., 2 Q.F., 2 Mach.
I. " "	<i>Makpa</i> .*	1883	1,504 N.	280 N.	10	..	..	Light and Machine guns.
I. Schooner	<i>Amazonas</i> .*	1874	1,970 D.	2,400 I.	10	145	..	" "
I. " "	<i>Etobio</i> .*	..	743 G.	..	10	..	..	" "
I. Schooner	<i>Copapa</i> .*	1870	888 N.	180 N.	10	..	..	" "
I. " "	<i>Itata</i> .*	1873	1,201 N.	340 N.	11	..	..	" "
I. " "	<i>Isidora de Cousiño</i> .†	1873	377 N.	90 N.	9	..	..	" "
I. " "	<i>Carlos Roberto</i> .†	1872	464 N.	81 N.	8	..	..	" "
I. " "	<i>Límarí</i> .*	1869	613 N.	150 N.	11	..	..	" "
I. " "	<i>Dithmarschen</i> .‡	1872	614 N.	150 N.	11	..	..	" "
I. Gunboat	<i>Valparaíso</i> .	1882	..	..	8	..	..	Light and Machine guns.
I. Paddle Steam-ship	<i>Cachaponteco</i> .‡	1875	240 D.	270 I.	8	..	..	" "
I. Schooner	<i>Bismarck</i> .‡	1885	80 N.	43 N.	12	..	..	" "
I. W. Gunboat	<i>Maula</i> .*	1889	145 D.	250 I.	9	..	..	" "
I. Naval Tug	<i>Trunco</i> .‡	..	145 D.	..	..	..	..	" "
W. Sailing-ship	<i>Condor</i>.	..	..	..	..	..	..	" "
I. Schooner	<i>Minero</i> .	..	1,870 D.	..	..	..	..	" "
I. 3 masts	<i>Miraflores</i> .	1870	419 N.	90 N.	9	..	..	" "
I. Schooner	<i>Louis de Cousiño</i> .†	1882	1,549 N.	450 N.	11	..	..	" "
I. " "	<i>Mapocho</i> ‡	1884	2,382 G.	3,000 I.	12	..	..	1 6-in. B., 4 Q.F., 4 Mach.
I. Schooner	<i>Imperial</i> ‡	..	188 N.	40 N.	13	..	..	Light and Machine guns.
I. Paddle Schooner	<i>Puerto</i> .*	1864	323 N.	100 N.	11	..	..	" "
I. Twin-cr. Schooner	<i>Chata Leoa</i> .*	1864	257 N.	76 N.	10	..	..	" "
I. " "	<i>Chata Huayay</i>.*	..	..	..	..	..	..	" "
I. " "	<i>Longavi</i>.*	..	..	..	..	..	..	" "

* Hired for 19s. per month per ton of carrying capacity from the Campaña Sud Americana de Vapores, by the Congressionalists.
† Hired by the Congressionalists from the Campaña Exploradora de Lota and Coronel.
‡ Hired by the Congressionalists.

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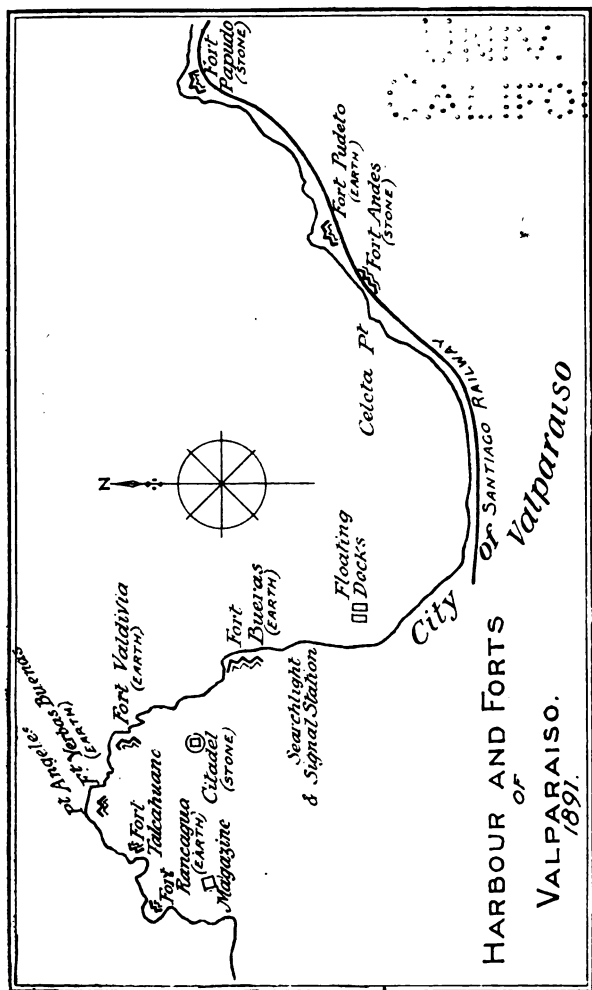
9. The returning *Abtao* had not been fallen in with by the *Esmeralda*. She was, however, met later off Chiloe by the *Aconcagua*, and, with little difficulty, was induced to give in her adherence to the Congressionalists, and to join the squadron off Iquiqui, where she arrived on February 6th. But ere that an event of some interest had happened at Valparaiso.

II. THE "BLANCO ENCALADA" AND THE FORTS

10. The *Blanco Encalada*, as has been said, remained at her usual buoy. At 5 a.m., on January 16th, Forts Bueras, Valdivia, and Andes each fired a single round at her. The projectiles from Bueras and Valdivia struck. A British officer who was an eye-witness, and who visited the ship a few hours afterwards, has thus described the effects of the shots.

11. "The *Blanco Encalada*, lying at her buoy, was about 600 yards distant from Fort Bueras, which was on her starboard beam at a height of about 150 feet above the level of the sea. The gun fired from Fort Bueras was a 10-inch M.L.R. Armstrong of 20 tons' weight, loaded with 130 lbs. of pebble powder and a filled common shell weighing 450 lbs. and fitted with a Krupp 'time and percussion fuse.' The shell struck the starboard side of the battery, between the second and third guns, exactly upon the head of one of the through bolts securing the armour, which is there eight inches thick. The shell burst outside, and left its head embedded in the plate, but drove the bolt completely through the side. The bolt struck the training-wheel of an 8-inch gun, disabling the weapon, and, glancing upwards, made a large indentation in the deck overhead. It then fell to the deck on the port side of the battery, and was there found. The bursting shell badly burnt the paint on the ship's side, and the woodwork of the adjoining ports; but did no further harm.

12. "From Fort Valdivia the *Blanco Encalada* was distant



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1,200 yards, the fort being astern, and at a height of about 100 feet above the sea. The gun fired was a 21 cm. (8.2-inch) Krupp of about 10 tons, loaded with 100 lbs. of brown prismatic powder and a Palliser sand-weighted shell of 250 lbs. This shell struck the stern above the armoured belt, traversed a $\frac{3}{4}$ -inch plate, passed through the captain's cabin and out of the door, demolished a 7-inch pump, struck the deck obliquely, rose again, and grazed the coaming of the ward-room hatchway, splinters from which broke a mirror, and did other damage in the mess-room. From the coaming it passed through a 1-inch wooden bulkhead, and struck the 5-inch steel bulkhead that protected the battery from fire from astern. In that it punched a hole an inch and a half deep, and then broke into numerous fragments. The dimensions of the compartment between the wooden and the steel bulkheads were about 25 feet by 45 feet, and within this space all the casualties occurred. Six people were killed, and six (three mortally) wounded. There were at least forty men sleeping in the compartment at the time, some on the deck and some in hammocks. Three men in the line of the shell's flight were killed, the one next to the wooden bulkhead being mutilated beyond recognition. The other three killed were in hammocks close by. The men wounded were hit by pieces of the shell, which flew in all directions. Strange to say, in its passage through the captain's cabin, the projectile took the pillow from under the head of Señor Waldo Silva, who was sleeping there, but did not injure him in the slightest degree. The projectile from Fort Andes missed, striking the water some yards astern." The enormous destructiveness of well-directed heavy-gun fire is excellently illustrated by this episode.

13. Having been thus fired upon, the *Blanco Encalada* slipped from her buoy and moved into a position close to the Custom-house and floating docks, where she made fast to another buoy. There her guns commanded the Custom-house and the Intendencia; yet she was compara-

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tively safe, for the forts could not fire at her without endangering the town and docks. Captain St. Clair, of the *Champion*, lodged a protest with the Intendente, and another with the officer commanding the *Blanco Encalada*, against any further firing until time should have elapsed sufficient to allow neutral vessels to clear out. No further firing, therefore, took place. In the afternoon, at the request of Captain Montt, who had been refused permission to land in order to bury the dead, and with the sanction of the Intendente, the *Champion's* boats set ashore the killed and wounded. Captain Montt then gave notice of the immediate blockade of the port of Valparaiso; but upon Captain St. Clair pointing out that the Congressionalist squadron could not exercise belligerent rights with regard to neutral vessels, and that, as the Congressionalists had no Admiralty Courts in which to try vessels, they could not be permitted to capture them, Captain Montt engaged that foreign ships should not be molested, apart from the prevention of the importation of contraband of war. In the evening, after dark, the *Blanco Encalada* put to sea, taking with her all the small tugs and other steam vessels that had been seized and that remained in harbour.

14. In the meantime the Balmacedist government was impatiently awaiting such succour as might be brought by the arrival from England of the *Almirante Lynch* and the *Almirante Condell*. The former reached Punta Arenas (Sandy Point), in the Straits of Magellan, some days in advance of her sister ship. There she met the *Pilcomayo*, and was given papers containing accounts of the outbreak of the Revolution. Her commander agreed with the *Pilcomayo's* captain to support the Congressionalists, and, in spite of orders conveyed to him by the government tug *Condor*, which was in the Straits, he decided to go to Ancud, to await there the appearance of the *Almirante Condell*, and then to deliver not only the two torpedo gun-vessels, but also the *Pilcomayo* to the Congressionalists.

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But the officer second in command of the *Almirante Lynch*, while he apparently gave in his adhesion to this scheme, laid his plans to secure the three vessels for the government, and was seconded by the governor of Punta Arenas. He therefore surprised his captain while the latter was asleep, put him ashore, and signalled for the commander of the *Pilcomayo* to repair on board. The latter also was by these means secured and landed. The two prisoners were offered liberty and restoration to command if only they would promise neutrality on behalf of themselves and their ships during the war, but they declined. At length they were allowed to depart, and, proceeding to the Argentine Republic, they did good service to their cause, not only by preventing the delivery of war material to the Chilian government, but also by impeding and harassing the passage of Chilian government troops across Argentine territory. Finally the captain of the *Almirante Lynch* succeeded, with others, in crossing the Andes and rejoining his friends in northern Chili. In the interval the *Almirante Lynch* went on to Valparaiso; and the *Pilcomayo* sailed first to Buenos Aires and then to Montevideo, at each of which places vain efforts were made by Congressionalist sympathisers to seize her. At Montevideo she was laid up till the end of the war. The *Almirante Condell*, without adventure of any kind, reached Valparaiso, and became available for the service of the government, though her engines and boilers, as well as those of the *Almirante Lynch*, were in such bad condition that it was not until after the middle of April that the vessels could be employed. Nearly all their boiler-tubes had to be renewed; and as the necessary steel tubes were not obtainable in Chili, brass tubes were taken from locomotives and substituted as a temporary expedient.

III. OPERATIONS IN THE NORTH

15. The Congressionalist vessels which had gone to the northward to blockade Arica, Pisagua, and Iquique, the

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chief ports in the province of Tarapacá, reached their stations on January 12th. The government, conscious of the financial value of the nitrate districts, made great efforts to hold them, and had already despatched by hired steamers about 300 men, under Colonel Robles, to Patillos, and about 2,000 more, under Colonels Arrate and Gana, to the neighbourhood of Arica. These latter set out at once across the desert to effect a junction with Colonel Robles.

16. Immediately upon her arrival off the coast, the *Magellanes* was ordered to blockade Pisagua. As that place was very slightly garrisoned, it speedily capitulated; and the Congressionalists, making it a base, presently extended their operations inland along the line of the nitrate railway as far as Zapiga station. Towards the end of January, however, the government pushed troops by train from Iquique to Zapiga, drove the Congressionalists thence to Hospicio, again attacked them there, and, in spite of the covering fire of the *Magellanes* and the *Cachapoal*, forced them to retire to their ships, which, on January 26th, departed southwards for Iquique, Huanillos, Tocopilla, Taltal, and Cobija.

17. During that time, and, indeed, from about the middle of January, the northern headquarters of the Congressionalist squadron were off Iquique. The Intendente had been summoned, but had refused to surrender the town. As, however, its only seaward defences were three old forts, one on an island, one near the railway station, and one near the Moro, all armed with obsolete and nearly useless guns, the place was at the mercy of the squadron, which did not at once occupy it, chiefly because men could not be spared for the purpose. To induce the Intendente to alter his mind, threats of bombardment had been offered; but on January 17th, at a meeting which was held in H.M.S. *Pheasant*, it had been made clear that he would not give up the town, and on the 20th, in order further to intimidate the Intendente, a strict blockade was established. It was not seriously believed that the Intendente would go beyond

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passive resistance, until, on January 22nd, it appeared that the government troops sent from Iquiqui had met, fought, and driven back the Congressionalists at Zapiga. Upon this the *Almirante Cochrane* sent ashore to say that if any further trains left Iquiqui they would be fired upon; and in the evening she shifted her berth, so as to be able to give effect to her threat. On the 27th news arrived that Pisagua had been reoccupied by the Balmacedists, and the event was celebrated in Iquiqui by a musical demonstration, which provoked the *Almirante Cochrane* into ordering from the anchorage all vessels that interfered with her line of fire upon the town.

18. The situation remained very strained until, nearly all the Congressionalist squadron having made a rendezvous off Iquiqui, the *Almirante Cochrane*, *O'Higgins*, *Amazonas*, and *Cachapoal* departed on February 14th for Pisagua, which was recaptured on the 6th, though subsequently it was again taken by the Government.

19. Scarcely had this division departed ere the *Blanco Encalada* perceived that attempts were being made to mount a large gun in one of the Iquiqui forts; and she opened fire until the work was suspended. This action quieted the Government party for several days. Towards the middle of February the Intendente learnt that Colonel del Canto with a body of Congressionalists, was advancing overland from Pisagua; whereupon the local commander sent away all his troops and surrendered the place, which, on February 16th, was occupied, though in very insufficient force, by parties from the squadron.

20. In the early morning of the 19th a body of Balmacedist troops, which, under Colonel Soto, had left the town, re-entered it under cover of a fog, and drove the small Congressionalist occupying force, under Lieutenant Merino Jarpa, into the Custom-house, whence it opened fire on the advancing foe. The *Blanco Encalada* manned her steamboats and sent them to assist, and also shelled the houses, under cover of which the Balmacedists were supposed to be

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fighting. The *Tolten* used her machine-guns to cover the sending of two or three boat-loads of seamen to reinforce the people in the Custom-house; but, though the men landed, they were soon driven back. The *Huascar* and the *Esmeralda* were in Cavancha Bay, shelling the hills to the rear of the city, so as to prevent Colonel Soto's artillery from following his infantry, and at 9.30 a.m. a second attempt at landing was successful, whereupon the *Huascar* and the *Esmeralda* rejoined the *Blanco Encalada* in shelling the houses behind the Custom-house. This stronghold was further reinforced early in the afternoon, and the action raged on both sides with ever-increasing fierceness until 3.30 p.m., when a store of dynamite exploded and fired the town. Almost immediately afterwards, to the general relief, the British Rear-Admiral, Charles Frederick Hotham, whose flagship, the *Warspite*, Captain the Hon. Hedworth Lambton,* lay close to the *Blanco Encalada*, succeeded in arranging an armistice, which was to last until noon on the following day, the 20th. On that day Colonel Soto consented to retire to Cavancha Bay and to surrender his arms, his officers and men being granted freedom to remain, or, if they preferred it, free transport to their homes.

21. Thus ended the naval campaign in the province of Tarapacá. There was further military action, for a time, in the interior; but it resulted in the triumph of the Congressionalists, who, having at length established themselves, were able to use the province as their shore base—a kind of base which they can scarcely be said to have previously possessed

IV. THE ATTEMPT ON THE "IMPERIAL"

22. For about a fortnight after the evacuation of the harbour of Valparaiso by the last of the Congressionalist

* Captain Lambton, while going ashore to conduct the negotiations, risked his life. A bullet went through the bottom of his gig, and another through the awning.

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ships, the *Blanco Encalada*, and, occasionally, the *O'Higgins*, watched the port, stopping and boarding all vessels that entered or left it, but only interfering with foreign trade to the extent of sending to Coquimbo certain vessels laden with coal that was intended for Valparaiso.

23. Being thus relieved from the immediate presence of the Congressionalist squadron, the government began to organise some kind of naval force. It got ready and launched several torpedo-boats which had been laid up at the torpedo depôt, and brought them round into the bay. The slip upon which they had lain was situated outside the bay and a little to the southward of the lighthouse, and had been somewhat damaged by shell-fire from the *O'Higgins*; but little difficulty was experienced in repairing it, and in getting the boats into the water. The *Compañia Sud Americana's* large steamer *Imperial* was also chartered, as has been already said, and was fitted as an armed transport. She had the reputation of being the fastest vessel on the coast; and although, after the end of January, she was continually at sea and experienced many narrow escapes, she invariably managed to elude her enemies.

24. On the night of January 27th the *Imperial* was lying at Valparaiso alongside the Customs' mole, when at 11 p.m. a picket-boat, believed to belong to the *Blanco Encalada*, passed near H.M.S. *Champion*, which lay hard by. Soon afterwards the discharge of a Whitehead was heard on board the British cruiser, and the boat was seen to steam rapidly out again; but, no explosion following, she presently returned, and endeavoured to approach the *Imperial*. By that time, however, both the crew of that vessel and the pickets ashore were thoroughly on the alert, and a brisk musketry-fire was opened on the boat, which steamed out once more, and rejoined her parent ship in the offing.

25. Next morning the Whitehead was picked up minus its head. It seems to have passed ahead of the *Imperial*, and to have run among the pillars of the mole, where its

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head must have been wrenched off either by the effect of a glancing blow on one of them, or by fouling the chain moorings of one of the lighters that lay there. As the Pacific Steam Navigation Company's steamer *Britannia* was alongside the mole, and only a very little ahead of the *Imperial*, both ships had a narrow escape. Thenceforward the Balmacedist torpedo-boats were regularly employed in patrolling the bay at night-time. In the second week of May one of these, the *Guale*, deserted her post, and endeavoured to get away to the northward in order to join the Congressionalists; but, running short of coal, she was recaptured by the *Almirante Lynch*, which next morning was sent in pursuit of her. Those of the crew who were taken were carried back to Valparaíso, tried by court-martial, and shot.

V. THE AFFAIR OF THE "ITATA"

26. Immediately after the capture of Iquique the Congressionalists despatched a representative to purchase arms* from the United States, but instructed him not to telegraph to them until the arms were ready for shipment. He misinterpreted his orders, telegraphed prematurely, and the *Itata*, which was despatched for the consignment, was in consequence kept waiting for some time at San Francisco. It was known that the authorities had been informed of her object; and, lest international complications might ensue, the arms were shipped in two American schooners, the *Robert* and the *Minnie*, for transshipment to the *Itata* somewhere outside the three-mile limit. The *Itata* put to sea, but, calling for coal at San Diego before the transfer had been effected, was there detained by order from Washington; and a guard, in the person of a United States' marshal, was put on board. The *Itata*, however, slipped her cable early one morning, set the man on shore

* This account mainly follows one supplied by a correspondent of the *Army and Navy Gazette*.

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ten miles down the coast, and got away safely to Iquiqui, although her captain, who had let his chronometer run down and had lost his charts, had to navigate by dead reckoning and a general chart of the coast. The American commander-in-chief, Rear-Admiral George Brown, in his flagship, the *Charleston*, had been waiting there for her for some time. While he was so waiting, the *Maipo* left the harbour. It was rumoured that she had gone to communicate with the *Itata*; and this rumour, fostered by the Junta, gained general credence throughout Chili, and even induced the powers at Valparaiso to send the torpedo gun-vessels in search of her. But she went south, painted herself grey, and shipped a false funnel. Her first port was in the Falkland Islands, whence she proceeded to the eastern side of Tierra del Fuego, where she transferred from a steamer 10,000 Mannlicher rifles, proportionate ammunition, and a large park of field artillery. On her return voyage to Iquiqui her engines broke down about forty miles outside of Valparaiso, and she had to remain in her perilous position for nearly forty-eight hours; yet, thanks to the small naval force at the disposal of the government, she escaped detection. This feebleness of the Balmacedists at sea virtually determined their fate; for the concluding battles of the war, fought on shore, were won by those Mannlichers.

27. Before the *Maipo* got back, the *Itata*, on June 3rd, had arrived, and had been taken possession of by Rear-Admiral Brown, who seized in her 5,000 rifles and 2,000,000 rounds of ammunition. It is understood that these represented only a comparatively small part of the total consignment, and that most of the rest mysteriously found its way to Iquiqui by means of the unknown steamer and the *Maipo*. The *Itata's* detention at San Diego had been ordered on the ground that the Congressionalists were rebels; and the seizure followed on the ground that, by steaming away with a United States' officer on board under duress, the *Itata* had insulted the American flag;

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but the United States' Supreme Court did not take this view, and the vessel was returned to her owners upon their giving a bond for \$60,000 for the vessel, and one of a like amount for the arms. This happened on September 30th, after the Civil War had ended. In the end it was handsomely acknowledged by the United States that the seizure was indefensible.

VI. THE SINKING OF THE "BLANCO ENCALADA"

28. On the morning of April 22nd the *Blanco Encalada*, *Huascar*, *Magellanes*, *Aconcagua*, *Cachapoal*, and *Biobio* occupied Caldera. Later in the day the *Huascar*, *Magellanes*, and *Cachapoal* quitted Caldera, and occupied Carrizal, where they were joined presently by the *Aconcagua*.

29. Señor Carlos E. Moraga, who had command of the *Almirante Condell*, and was senior officer of the government torpedo flotilla, received at Huasco, on April 22nd, a telegram from President Balmaceda, informing him of the presence off Caldera of the Congressionalist squadron. He had with him at the time the *Almirante Lynch*. The *Imperial*, under escort of which he had quitted Valparaiso on the 18th, had parted company. The nature of his operations may best be described by the quotation in full of the following official despatches :

Commander Moraga to the Balmacedist Commandant-General of Marine.

"VALPARAISO, April 29th, 1891.

"SIR,—I have the honour to submit to you the following report of the operations carried out by the squadron under my command.

30. "I left Valparaiso on the 18th inst., with the torpedo-boat catchers *Condell* and *Lynch*, and the armed steam transport *Imperial*.

31. "As I deemed it necessary, if we desired to attain tangible results, to try the torpedoes and practise the

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men, I remained on the 18th, 19th, and 20th at Quinteros. In the afternoon of the day last mentioned, I received through your Excellency the news despatched by his Excellency the President of the Republic that the Revolutionary fleet, with a body of troops, would be off Caldera on the morning of the 22nd. As soon as I learnt this, I communicated by telegraph to his Excellency the plan which I formed in view of this sudden appearance of the Revolutionary fleet in the province of Atacama. I explained that I should leave Quinteros on the morning of the 21st, so as to obtain news from Huasco on the afternoon of the 22nd; and that, having satisfied myself of the approach and whereabouts of the fleet, I should attempt an attack at daybreak on the 23rd.

32. "At 8 a.m. on the 21st I left Quinteros and headed to the northward, having first given all the directions necessary for the successful carrying out of the plan of procedure. At 2 p.m. on the 22nd I reached Huasco, and received intelligence that at that time the ironclads *Blanco Encalada* and *Almirante Cochrane*, as well as the monitor *Huascar*, one of the corvettes, and three transports, were lying at anchor off Caldera. I therefore summoned the commander of the *Almirante Lynch* (Señor Fuentes) on board, and, after careful deliberation, a scheme of attack was agreed upon. I put to sea at 5 p.m.,* and soon afterwards the *Almirante Lynch*, which had remained in the bay to run her torpedoes, signalled to me. When I had again put myself within hailing distance of her, she informed me that she had just heard from the shore that three columns of smoke were to be seen off Carrizal. This caused me to alter the plan which had been arranged, and we steamed away abreast of one another towards Caldera, the *Almirante Lynch* being on the starboard beam of the *Almirante Condell*.

* After dark the vessels steamed without lights. The *Imperial*, in consequence, lost sight of her consorts, and eventually hove to off Caldera to await signals.

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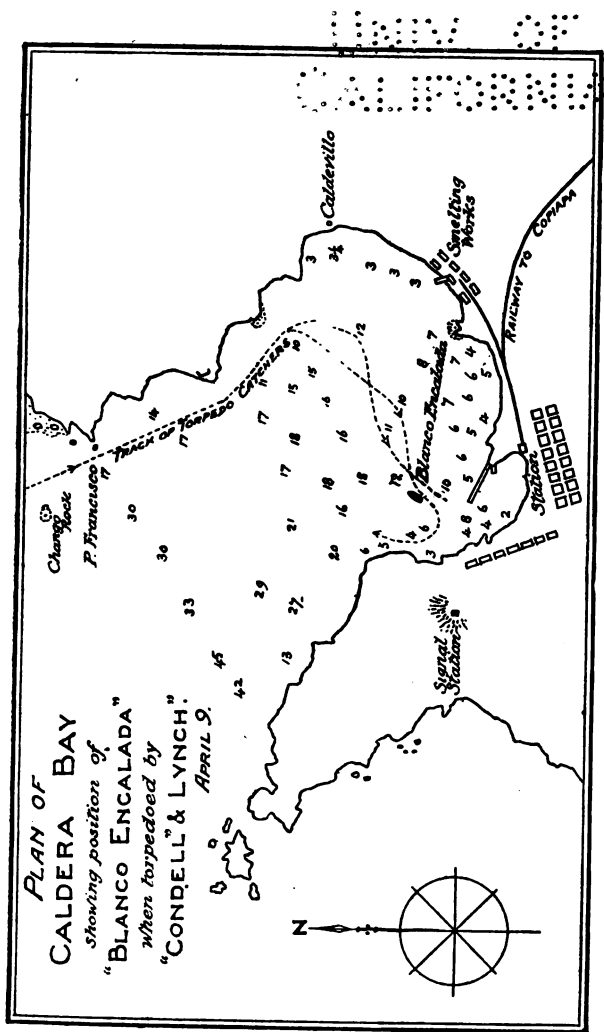
33. "According to the arrangement which was adopted, we were to arrive at Cabeza de Vaca at 3 a.m. on the morning of the 23rd, so that then, hugging the coast northward of Caldera, we might first fire at the Revolutionary squadron with our bow torpedoes, and then, turning to starboard, utilise both the torpedoes on the port side. These operations were to be carried out in the first instance by the senior officer's ship, which was to open the attack.

34. "Shortly before 4 a.m. I led the way into Caldera Bay. As far as the moonlight would permit, I reconnoitred from the bridge the position of the Revolutionary vessels. In the meantime the *Almirante Lynch* followed in my wake at a distance of about eight or nine fathoms. When I had ascertained the situation of the ships, I headed at half-speed straight for the *Blanco Encalada* or the *Almirante Cochrane*—for at the time I did not know which of the two vessels lay in front of me. Just astern of the ironclad I made out another craft, which, from her appearance, I took to be the *Huascar*. At a distance of about half a cable * I discharged my bow torpedo, which missed, and, almost grazing the stern of the ironclad, probably struck † the vessel which lay close by. Immediately after this first shot I turned hard to starboard, and, at about ten fathoms, Lieutenant Vargas discharged a port torpedo, which must have hit ‡ the bows of the ship which I had aimed at. Almost at the same instant I ordered Lieutenant Rivera to discharge the second torpedo from the same side. Between my second and third shots the ironclad opened fire on my ship with great quickness and steadiness, using machine, quick-firing, and heavy guns. After my ship had discharged her first torpedo, I put her at full speed. The fire of the ironclad remained concentrated upon us, and she did not apparently notice that the *Almirante Lynch*, which had

* The distance was certainly very much greater.

† All the evidence tends to show that it ran ashore.

‡ A mistake. This torpedo also missed, if the evidence can be trusted.



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followed the motions of the *Almirante Condell*, had placed herself at very close range, and had discharged her bow torpedo, which, however, missed. Turning to starboard, the *Almirante Lynch* then fired a second torpedo, which struck the *Blanco Encalada* nearly amidships. Two minutes later the Revolutionary vessel sank. Between the discharge of the *Almirante Condell*'s first torpedo and of the *Almirante Lynch*'s last, barely seven minutes elapsed."

35. Commander Moraga's despatch goes on to recount the engagement between the torpedo gun-vessels and the *Aconcagua*. Its completion will be given later. In the meantime the two despatches of the captain of the *Blanco Encalada* to Captain Jorje Montt will be of more immediate interest. The first was very brief.

Don Luis A. Goñi to the Congressionalist Commander-in-Chief.

"CALDERA, April 23rd, 1891.

36. "SIR,—To my regret I have to inform your Excellency that the ship under my command was sunk this morning at 4.30 a.m. by the combined attacks of the torpedo-vessels *Almirante Lynch* and *Almirante Condell*. They succeeded in striking the *Blanco Encalada* with six out of seven torpedoes* which they discharged. We have lost about one-half of our complement, including, among the officers, Paymaster Guzman, Lieutenant Pacheco, the aspirants Soto and Aguilar, and several engineers. I have also to lament the loss of Don Enrique Valdes Vergara. The torpedo-vessels received a heavy fire from the *Blanco Encalada* ere she went down, and afterwards from the *Aconcagua*, when, coming from Carrizal, she entered the harbour; but we are unable to ascertain what damage they

* Balmaacedist accounts speak of but five torpedoes in all, and it would appear that only one of them hit. There is little or no doubt that only five torpedoes were employed. Harvey, however, makes the *Lynch*, like the *Condell*, to have discharged three, the first of which sank promptly to the bottom.

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have suffered. The ship lies on her starboard side, with the tops of her bridges out of the water. I believe that we shall be able to recover the guns on the upper deck, and later all the others. I have a diver here. I await here your Excellency's order, and only add that I have sent the survivors on board the *Aconcagua*."

37. The second despatch is somewhat fuller.

Don Luis A. Goni to the Congressionalist Commander-in-Chief.

"CALDERA, April 23rd, 1891.

"SIR,—I am sorry to inform you that this morning at 4.45 a.m. the vessel under my command was suddenly attacked and sunk by the two Dictatorial torpedo gun-vessels *Almirante Lynch* and *Almirante Condell*. My ship for the first time for a long period was moored with a slip-rope to a buoy, in order to rest the weary crew, in consequence of the confidence inspired by the news which had been brought a few days before by the *Warspite* of the progress of the peace negotiations, and in the belief that the enemy could not have learnt of the arrival of the squadron on the previous day. We, nevertheless, had steam up. Taking advantage of the dark night and of their great speed, the torpedo-vessels were able to approach without being seen to within about 2,000 yards. We immediately opened fire upon them, manning with the watch the two quick-fire and the six Nordenfelt machine-guns on the upper deck. The officer of the watch ordered 'General Quarters' to be sounded.

38. "Arriving on deck, I ordered the ship to slip from the buoy and the engines to be started, so that we might turn her bows, provisionally, to the gun-vessels, and then manœuvre to clear the harbour, as the only way whereby we could avoid the torpedoes.

39. "In the meantime one of the torpedo-vessels had approached to within 1,000 yards on our starboard side

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and discharged three Whiteheads, none of which, owing to the great distance, took effect. Greeted by the two quick-firing guns, she was obliged to withdraw, delivering, however, a heavy fire, which caused us much loss.

40. "The ship had now acquired headway ; but the second torpedo-vessel had approached to within half a cable, and, taking advantage of the quick-firing guns having unfortunately ceased firing for a moment, in consequence of the bursting of a shell among the people serving them, and profiting by the darkness of the night and her own smallness, she discharged what I took to be her bow torpedo, and struck us with it nearly amidships.

41. "The vessel, shattered on her starboard side between the engine and the boiler compartments, began to fill rapidly. The fires being quickly extinguished, it became impossible either to use the pumps to free the ship from water, or to beach her. Five minutes later she heeled to starboard, and completely disappeared beneath the surface, save that the ends of the bridges remained exposed.

42. "Some of the people* were rescued by boats from the shore, about 200 being saved. There were drowned, however, about 120, among whom were the gallant and patriotic secretary to the squadron, Señor Enrique Valdes Vergara, the equally valuable officers Lieutenant Pacheco, First Engineer Trehwela, Surgeon Boza, Aspirants Soto and Aguilar, and the greater part of the engineers and marines.

43. "You will see that the loss of life has been heavy. Every one being at his post at the critical moment, it was impossible for those whose duties were below to gain the deck in the few minutes which elapsed between the striking of the torpedo and the sinking of the ship.

44. "After the survivors had reached the shore, an attack on the *Biobio* was expected, she being the only other vessel

* It is believed that she had on board only eighty of her proper crew, the rest being engaged on shore. In addition she had about 200 or more raw hands, who were neither seamen nor gunners,

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in the harbour. I therefore directed her to be brought alongside the quay, and ordered some of my people to man the northernmost fort, which, happily, was in serviceable condition. Thanks to these measures, it was possible to drive off the gun-vessels, which at daylight attempted to approach, but which withdrew at the first shot.

45. "It only remains for me to assure your Excellency that, during the short but terrible engagement, the officers as well as the men behaved with their usual gallantry and coolness, and that all of them, in spite of the sad misfortune which had come upon them, were animated to the last with enthusiasm, and were ready to make every sacrifice for the sake of the cause in which they were fighting. Enclosed are lists of the survivors and of those who have been lost.

"God preserve you.

"LUIS A. GOÑI."

46. These accounts may be fittingly supplemented with some extracts from the *Patria*, of Iquique, and with information furnished to me by Captain A. F. St. Clair, R.N. According to the newspaper's correspondent at Caldera, of the *Blanco Encalada's** two steam-boats, one was at the time on deck under repair, and the other was in bad condition and had been deprived of her armament. For these reasons neither did guard-boat duty that night. This was exceptional. The *Biobio* was anchored on the port quarter of the ironclad at a distance from her of half a cable. The officers of the watch on board the *Blanco Encalada* were Commander Froilán Gonzalez and Aspirant (Cadet) Luis Aguilar. Captain Goñi had turned in. When the enemy appeared, the order was given, "Clear ship for action," and fire was opened from the Nordenfelts and 6-pounders; but the crew, apparently thinking that the ship was merely going to ordinary night-quarters, was not very smart. The port engine was ordered to go ahead, and the starboard to

* She had left her torpedo-nets on the quay at Valparaíso, upon quitting that port in January.

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go astern, and the machinery, after a little delay, actually moved.

47. The first torpedo missed ; the second * struck the *Blanco Encalada* on the starboard side in the neighbourhood of the dynamo-room, and extinguished all the lights, causing the vessel also to heel to starboard, apparently before the water-tight doors could be closed. The first assailant then retired under a heavy fire. The second, from ahead of the *Blanco Encalada*, discharged a torpedo which passed innocently along the ironclad's side. Thereupon she also retired for a time, firing briskly ; and a shell from her burst in the forward compartment, killing Lieutenant Pacheco. The second assailant finally took up the position which the first had occupied, and discharged a torpedo, which struck the *Blanco Encalada* on the starboard side between guns No. 1 and No. 3. At once the vessel began to sink rapidly. She went down five or six minutes after having received the first torpedo ; and while her people were struggling in the water the enemy fired upon them.

48. The *Biobio*, which had narrowly escaped being hit by a torpedo that passed under her bows, and which had not suffered at all, lowered three boats ; and two more pushed off from the shore, while one small boat belonging to the *Blanco Encalada* floated. This last picked up Captain Goñi. The others also picked up many ; and some swam ashore ; but all the people who were below must have been drowned. Out of a total of 26 officers and 258 men, 11 officers and 171 men were lost.

49. Captain St. Clair, in the *Champion*, arrived on the scene very soon afterwards. His officers had plenty of opportunity for gathering details from both sides. His gunnery officer, Lieutenant R. B. Colmore, R.N., examined the sunken ship by the aid of divers, and, only two days after the action, made an official report concerning it. Captain

* This statement is quoted mainly to show how much uncertainty existed as to exactly what was happening. It appears to be erroneous.

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St. Clair, who was thus most favourably circumstanced, was so good as to write to me from the spot as follows :

50. "The *Almirante Condell* and *Almirante Lynch* were commanded by Captains Moraga and Fuentes, both of whom had received torpedo training at the Torpedo School in Valparaiso, under Captain Santa Cruz ; and they had the services of an experienced French torpedo-artificer who had recently arrived from Europe to repair and adjust torpedoes for the Chilian Government. The armament of each vessel consisted of three 14-pounder 3-inch. Q.F. Hotchkiss guns, two being on the forecastle *en échelon* and one on the poop ; four 3-pounder 1'85-inch Q.F. Hotchkiss guns, two being on the poop, and one, on a sponson, on each beam ; and five torpedo-tubes, one ahead, and two on each beam. The guns were arranged so that two of the 14-pounders could be trained simultaneously in any direction except right astern, where only one 14-pounder would bear ; but, both ahead and astern, all four of the 3-pounders could be brought to bear.

51. "According to accounts given by the surviving officers of the *Blanco Encalada*, the morning was dull and cloudy, the moon at intervals being completely obscured. At about 4 a.m. the torpedo-vessels were sighted by the look-out men at a distance of some 2,000 yards. The alarm was at once given, but, owing to the bugler mistaking the orders and sounding the ordinary reveille instead of the call for action, some delay took place in getting the crew to their quarters. By this time the torpedo-vessels had approached within 500 yards on the starboard bow, and fire, which was at once returned, was opened on them from quick-firing and machine guns. The *Almirante Condell* at the same time discharged her bow torpedo, which passed ahead * of the ironclad, and, running on shore, exploded there. The vessels then appeared to stop their engines ; and orders were given on board the ironclad to slip the cable and go ahead with the port engine and astern with the starboard, but these

* More probably, astern of the *Blanco Encalada* and ahead of the *Biobio*.

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orders do not seem to have been carried out.* The *Almirante Lynch* at the same time went at full speed ahead, passing along the *Blanco Encalada's* starboard beam, and discharging both tubes at a distance of about 100 yards. One of the torpedoes struck the *Blanco Encalada* and exploded, and the vessel slowly heeled over and sank in less than five minutes, after firing one of her heavy guns, the shell from which passed over the *Almirante Lynch* without damaging her."

52. The examination of the wreck, under the direction of Lieutenant Colmore, R.N., disclosed some facts of interest.

53. "The *Blanco Encalada*," continued Captain St. Clair, "was found to be lying on her starboard side in about 60 feet of water at low tide, and rested on the ground from the bilge-keel upwards. A large hole, blown through the bottom of the ship, extended about 15 feet in a fore-and-aft direction, and was about 7 feet broad, its extremity being about 2 feet before and 5 feet above the main inlet-valve. All round the hole the iron skin was separated by some distance from the wood sheathing; and the external zinc (the outer sheathing was zinc instead of copper) was much displaced in the vicinity. The thickness of the plate driven in was $\frac{5}{8}$ inch, and the sheathing consisted of from 4 to 6 inches of wood behind the zinc. The port side of the ship remained intact. The starboard side, from the bilge-keel upwards, could not, owing to its position, be examined. The scuttles were all open on the port side, and the officers' ports were the only ones closed. Although the order to close water-tight doors was given, it is improbable that it was carried out. The electric light was not used.

54. "Captain Goni appears to be quite certain that only one torpedo exploded under the vessel. Some officers who were on the main deck on the port side describe the shock as having been severely felt there. They say that one of the 8-inch guns on the starboard side was thrown off its trunnions, and that men were killed on that side. On the

* The ship certainly turned a little to starboard.

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upper deck and after bridge the shock was felt only slightly. The total loss of life was said to be 150 officers and men, of whom 40 are estimated to have been killed by the fire from the quick-firing guns. Of 11 officers who were missing, 6 were engineers. The only engineer who was saved was washed up one of the ventilators. He said that the others were killed by the pieces of machinery which flew about.

55. "The torpedo fired at the *Biobio* was subsequently picked up, and proved to be a Mark IV. Fiume.* It had been set for a distance of 600 metres, a depth of 6 metres (19'6 feet), and to sink. The pistol had evidently been taken to pieces and altered after it had left Fiume, and the alteration had been performed by an unskilful workman. The detonator had not been struck."

56. A Commission was subsequently appointed to examine into the feasibility of raising the *Blanco Encalada*, and from its report the following facts are taken :

57. "The *Blanco* is lying heeled over on her side in a part of the bay where there is a depth of 14'5 metres at low water and 15'5 metres at high water. The deck is inclined to the perpendicular at an angle of 10°, the vessel resting on her starboard side, having settled in the sand about 1 metre for about half the beam of the ship. . . . The only parts of the ship above the water at ebb tide are the end of the forward bridge and the yard-arm on the fore, which show at all stages of the tide. . . . The vessel lies north and south, and obstructs the principal anchorage. . . . The hole caused by the torpedo is in the engine compartment on the starboard side, so that the ship is partly lying on the injured portion. According to the report of the divers, the hole is 7 metres long and from 3 to 4 metres broad. These dimensions must be considered as approximate, because the contour of the opening is very irregular, and the sand makes it difficult to measure exactly its

* A 14-inch torpedo, with a speed of 23 knots and a charge of 58 lbs. of gun-cotton. Whether it was really intended for the *Biobio* is more than doubtful.

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length. At the same time the lower part of the opening is well defined, and is on a horizontal 1·25 metres above the keel. It would be necessary to raise the vessel entirely out of water in order permanently to repair the damage. The divers found absolutely no other defect in the hull of the ship. . . .

58. "The guns of the battery are still in their proper places. When the water is clear, the muzzles of the guns can be seen from the surface ; and the bores of these guns must still be in very good condition, in spite of lying five and a half months submerged, judging from the pieces of iron and steel which were taken from the ship, and which are forwarded with this report. . . . As to the possibility of raising the vessel, we beg to say that it is perfectly practicable, after the great difficulty of righting her has been overcome. The closing of the opening would not offer any serious difficulty, and would serve temporarily until the completion of the Talcahuano dock,* if it should prove inadvisable to put her in Santiago dock† at Valparaiso. After the opening has been closed, and all other openings (those in the gun-decks and the skylights), it will be possible to clear the vessel of water by powerful pumps brought from Europe. These operations will be especially facilitated by the calmness of the water of the port and by the proximity of the ship to the shore.

59. "Mr. Chambon, who signs this report, and who brought to a favourable conclusion the raising of the *Sultan*‡ in the Mediterranean for £50,000—which vessel, besides being far larger than the *Blanco*, was lying much exposed to the sea and winds—estimates that the cost of saving the *Blanco* cannot possibly exceed that sum, and

* This dock, measuring 545 feet by 80 feet, was not finished until some time afterwards.

† A floating wooden dock, measuring 300 feet by 68 feet, and capable of lifting 6,000 tons.

‡ Dimensions of the *Sultan*: 325 feet long, 59 feet broad, 9,290 tons displacement. She ran on a rock in the Comino Channel, Malta, and sank on March 13th, 1889, but was raised the same year.

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would probably be much less. The principal difference between the two cases is that the *Sultan* was upright on the rocks, while the *Blanco* is lying on her side in the sand. Estimating the actual value of the *Blanco* at half her original cost, or about £125,000—which is not an over-estimate, because the battery, ammunition, and fittings must at any rate attain almost their original value—we think it would be advantageous to spend as much as 40 per cent. of this sum in raising the ship and in temporary repairs. As to the lowest figure at which the operation could be carried out, we think that the only efficient means of obtaining the work for it is by public bids. If, after having received bids, the sum should be larger than 40 per cent. of the actual value, or £50,000, the Commission is of the opinion that the most convenient expedient will be to destroy the ship with dynamite, although even this would cause very large losses, taking out, of course, all articles it may be possible to recover, because, as the ship is lying with the deck almost vertical, it is not possible to save either anchors or chains, and all the rest of the equipment will be lost.

60. "On the other hand, the ship is obstructing the principal anchorage in the bay, and it is absolutely necessary to remove this obstacle. Finally, the Commission think it their duty to urge upon the Government the necessity of proceeding at once to raise the ship, after it shall have decided in favour of that plan, because every day causes increased damage to the material, and, above all, to the battery; and, as the mere operation of raising could not be completed in less than five or six months, as has been proven in Europe, the total time of immersion would exceed one year, and the delicate parts of the material would be too much deteriorated to be available for use."*

* Owing to the rather discouraging tone of this report, which was signed by Messrs. Henry M. Simpson, S. Chambon, and J. Kraus, all idea of raising the ship was abandoned. The name *Blanco Encalada* was transferred to a new Chilean cruiser, which was built at Elswick, and launched on September 9th, 1893.

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VII. THE "ACONCAGUA" AND THE TORPEDO GUN-VESSELS

61. The continuation of Commander Moraga's despatch, which is now given, describes how the gun-vessels fared after they had sunk the Congressionalist ironclad.

62. "Upon leaving Caldera," says Commander Moraga, "we encountered the transport *Aconcagua*, which was making for the bay from the southward. As soon as she recognised us, she endeavoured to get away, turning to seaward, and at the same time opening fire on us. When the Revolutionary transport perceived that, on account of our superior speed, retreat was hopeless, she headed again for Caldera, possibly in expectation of there sighting her consorts and being assisted by them. She was at once engaged by the two torpedo-vessels in an action which lasted an hour and a half. During that period the fire of the *Almirante Lynch* and the *Almirante Condell* silenced that of the *Aconcagua*, and forced that ship to stop her engines. She did not strike, for she fought without her flag. At the critical moment of the action there appeared on the horizon smoke, which I took to be that of the *Esmeralda*, and, in addition, several tubes in one of my port boilers burst, and obliged the engineers for a few moments to leave their employment in that compartment. In consequence of these occurrences I headed to the southward, and ordered the *Almirante Lynch* to permit the prey to depart. Soon afterwards I discovered that the vessel which had been sighted was the ironclad *Warspite* of the British navy. She was making for the harbour. The *Aconcagua* took advantage of the situation to steam with all speed for Caldera, and to place herself under the protection of the forts. I must not omit to mention that, when we approached Caldera in order to ascertain the effects of our torpedoes, we were fired upon by these forts."

63. Commander Moraga concluded by favourably mentioning the names of a number of officers who had assisted

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him, and by expressing regret that among the dangerously wounded on his side were Major Pacheco, Captain Infante, and M. Hellec, torpedoist of the *Almirante Lynch*.

64. Captain Vincente Merino Jarpa, of the *Aconcagua*, gave, as may be expected, a somewhat different account of this little action. His despatch ran :

65. " At 7 a.m. on April 23rd it was reported to me from the forecastle that the *Almirante Condell* and *Almirante Lynch* had been sighted off Morro Copiapo, at a distance of about 7,000 metres (7,655 yards). I at once ordered the ship to be headed in that direction, caused ' Clear for action ' to be sounded, and increased my speed. When I was about 4,000 metres (4,374 yards) from them, I opened fire with my quick-firing guns. This was immediately returned by both vessels with great promptness and rapidity. So incessant was the discharge that it resembled that of small-arms rather than that of guns. At first the vessels separated, as if to place us between two fires, but they soon altered their intention, possibly because they realised that the manœuvre would have enabled me to use the guns on both broadsides. Both put themselves on our port beam. One of them was soon struck by a shell, and emitted such volumes of smoke and steam that for a period of two minutes she was completely invisible to us. Her speed from that moment sensibly diminished, and she fell away on the *Aconcagua's* port quarter, while the other craft kept parallel with us at a distance of from 1,500 (1,640) to 2,000 metres (2,187 yards).

66. " As this position did not permit me to use all my guns, I turned and headed the *Aconcagua* for the leading ship, and so was enabled to bring two of my 13 cm. (5·1-inch) guns into action. Upon this the torpedo-vessel increased her speed and withdrew, keeping away to seaward. I continued firing until she was out of range. I then made for the harbour, where, to my sorrow, I received the sad news of the sinking of the *Blanco Encalada* by the treacherous audacity of the very craft which I had just been engaged with. The action began at 7 and

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ended at 8.20 a.m. During that time we fired, without ceasing, 197 rounds, including seven from the 13 cm. guns. The rest were from the quick-firing guns, with a few from our Hotchkiss revolving-cannons. The *Aconcagua's* speed throughout the action was eleven-knots.

67. "Out of more than 400 projectiles which the enemy fired from his quick-firing guns, eight only struck the ship, and these hit the woodwork above the water-line, and did but little damage to the vessel and her people. We had four slightly wounded—the boatswain, one seaman, and two soldiers of the Esmeralda Battalion who were in charge of the equipment of their corps. This action confirms the opinion that torpedo-vessels are useful only for surprise attacks. The view that they are worth nothing as fighting craft will perhaps be shared by the naval officers of the Dictator, when they reflect that, during a hot conflict of nearly an hour and a half, they gained absolutely no advantage over a simple merchant-steamer, whose classification as a man-of-war arises from the fact that she is temporarily armed with a few guns of small calibre. From this it appears to result that torpedo-vessels are lost from the moment when they encounter one of our regular warships, if only she can bring them to action."*

68. The correspondent of the *Patria*, who saw the action, adds, as additional details, that the two soldiers were wounded by a shell which struck the funnel-casing and burst on the upper deck; that the greater part of the engagement took place off Calderilla†; that the distance decreased at times to about 600 yards; and that one of the Hotchkiss revolving-cannons became useless during the fight after having fired only twenty rounds. It does not seem to have been struck. At the time the *Aconcagua* had only two of those weapons on board.

* Be it remembered, however, that these particular torpedo gun-vessels were very lightly armed, and that they made abominable practice.

† Not the village in Caldera Bay, but the port to the south of it.

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69. Captain St. Clair, R.N., doubted whether the *Almirante Condell* was hit, but learnt that the *Almirante Lynch* returned to Valparaiso with her after compartment full of water and her steam-pipe damaged. Whether these injuries were inflicted by the *Blanco Encalada* or by the *Aconcagua* is unknown. It is, however, believed that the *Blanco Encalada* hit the *Almirante Lynch* four times, and that several of her men were wounded by flying splinters. One shot severed the electric wires of a torpedo-tube just after the torpedo had been discharged. In any event the waste of ammunition was enormous. Much of it seems to be attributable to the fatal facility with which modern weapons can be loaded, fired, and reloaded, even by raw gunners.

70. It is to be noted that, had the *Imperial* waited outside Caldera for her consorts instead of returning towards Valparaiso, the *Aconcagua* would probably have been captured. The *Imperial* should certainly not have withdrawn until she knew that her consorts, which had gone in to attack an ironclad, needed no assistance.

VIII. FURTHER OPERATIONS OF THE TORPEDO GUN-VESSELS.

71. During May and June the Powers attempted, but in vain, to mediate between the belligerents. In those months the Congressionalists were chiefly engaged in concentrating their strength in the north, and in preparing to deal a decisive blow.

72. On the morning on May 17th, after having again visited Caldera, where she found the enemy well prepared, the *Almirante Condell* appeared off Iquique, where the Congressionalist fleet lay, and discharged her quick-firing guns at a considerable range. She was pursued by the *Almirante Cochrane*, but escaped without difficulty. There are some reasons for believing that earlier on the same morning the *Almirante Condell* had actually crept into

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Iquiqui Harbour, and fired a torpedo at one of the ships there; but, if so, the torpedo certainly missed its mark. Two days later, on the 19th, the *Almirante Condell*, then accompanied by the *Almirante Lynch* and the *Imperial* again appeared off Iquiqui, and expended a number of rounds, which, however, did no damage. The *Huascar* and *Abtao* slipped and went after them, but the Balmacedist vessels easily got away. The only projectile which went anywhere near its mark was a 14-pounder shot from the *Almirante Condell*. This passed over the *Abtao's* stern. In the excitement of the attack a spar-torpedo picket-launch belonging to the *Almirante Cochrane* was destroyed by the explosion of her own torpedo, and five men were blown up or drowned. After the return of the vessels to Valparaiso, an attempt, which failed, was made to destroy them by means of explosives smuggled on board. Three men who were implicated were tried, convicted, and shot.

IX. TRANSPORT OF THE ARMY TO QUINTEROS BAY

73. It has already been told how the *Maipo* carried Mannlicher rifles, ammunition, and field-guns to Iquiqui. She also carried thither blankets, which were much needed. Other necessary supplies came in from other sources; and, after months of hard work, the Congressionals in the north at length felt that they were in a position to make a descent upon the provinces of the south. Their determination to do so was accelerated by the fear lest the protected cruiser *Presidente Errázuriz*, which had been built, and was rapidly completing, in France, might arrive to cheer the declining spirits of the Balmacedists, ere the Opposition could put an end to the strife.

74. It was well known at Valparaiso that a southward movement was intended; but no one there, and very few even at Iquiqui, knew where the landing was to be attempted. Talcahuano was favoured by some;

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Valparaiso itself by others ; and Coquimbo by the majority on both sides. Consequently the government troops at Coquimbo were increased to 8,000 men, and large forces were also kept at the other threatened points. Not until after the beginning of August was Quinteros Bay finally selected by the Congressionalist chiefs as the place of disembarkation for the expeditionary army ; and the chiefs kept their decision to themselves until there was no longer any danger that the leaking out of it might imperil their well-matured plans.

75. Few, if any, of the operations of modern warfare have been more audacious in their conception, more skilful in their conduct, and more strikingly successful in their results than the operations which, begun in the middle of August, 1891, terminated on the 28th of that month in the capture of Valparaiso by the Chilian Congressionalists. So remote did most critics deem the favourable issue of the adventure, that a distinguished British strategist only reflected the general opinion when, upon hearing of the landing of the expedition in Quinteros Bay on August 20th, he wrote : "It is a hazardous attempt—almost a mad one. If the invaders win at Viña del Mar, they will still have half-a-dozen battles before them ere they can approach the city ; and when they are there, they will not be able to enter it. The undertaking looks like the last throw of a desperate gamester." Yet the "desperate gamester" took Valparaiso in a week, in spite of a determined resistance.

76. The main point of departure of the expedition was Iquiqui, but most of the army destined to be transported to the southward was gradually assembled near Caldera. Colonel Estanislao del Canto was military Commander-in-Chief ; Colonel Holley, Minister of War, was Chief of the General Staff ; Colonel Emil Körner, a born strategist and organiser, filled the specially created post of Secretary of the Staff.

77. The First Brigade, which had previously been stationed at Villenar, in order to attract the enemy's attention

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to that place, embarked at Huasco on August 15th and 16th in the *Aconcagua* and *Amazonas*, and sailed on the evening of the 16th, under convoy of the *Esmeralda* and *Magellanes*. The Second Brigade, having embarked at Iquiqui on August 9th, 10th, and 11th, in the *Maipo*, *Cachapoal*, *Copiapó*, *Isidora de Cousiño*, *Limari*, and *Abtao*, sailed under convoy of the *Almirante Cochrane* and *O'Higgins*, with other vessels, to Caldera, where the Third Brigade was embarked.

78. The constitution of the force was as follows ·

FIRST BRIGADE.

Colonel Anibal Frias.

	Strength.
Constitucion Regiment (1st of the Line)	810
Iquiqui Regiment (6th of the Line)	760
Antofagasta Regiment (8th of the Line)	532
Artillery, First Battery, No. 2	80
Libertad Squadron, No. 1, Cavalry	150
Carabineros del Norte, No. 3, Cavalry	130
Engineers, 1st Company	50
Ambulance Corps and Ammunition Train	22
	<hr style="width: 100%; border: 0.5px solid black;"/> 2,534 <hr style="width: 100%; border: 0.5px solid black;"/>

SECOND BRIGADE.

Colonel Salvador Vergara.

Chañaral Regiment (5th of the Line)	460
Valparaiso Regiment (2nd of the Line)	560
Huasco Regiment (11th of the Line)	560
Atacama Regiment (10th of the Line)	869
Guías Squadron, No. 4, Cavalry	140
Lanceros, No. 5, Cavalry	120
Artillery, Second Battery, No. 2	150
Engineers, 2nd Company	40
Ambulance Corps and Ammunition Train	30
	<hr style="width: 100%; border: 0.5px solid black;"/> 2,929 <hr style="width: 100%; border: 0.5px solid black;"/>

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THIRD BRIGADE.

Colonel Enrique Canto.

Tarapacá Regiment (9th of the Line) . . .	471
Taltal Regiment (4th of the Line) . . .	1,015
Esmeralda Regiment (7th of the Line) . . .	759
Pisagua Regiment (3rd of the Line) . . .	730
Grenaderos Squadron, Cavalry . . .	120
Guías Squadron (part of) . . .	100
Artillery, First Battery . . .	220
Columna de Rifleros, 2nd Battery . . .	150
Engineers, 3rd Company . . .	37
Ambulance Corps and Ammunition Train . .	71
	<hr/>
	3,673
	<hr/>

79. The total military strength was 9,136; but to this must be added about 100 seamen, who served ashore with machine-guns belonging to the fleet. The arms of these troops consisted of 4,000 Mannlichers (M/88, cal. '315 inch), 5,000 Gras rifles ('43 inch), and 600 Comblain rifles ('43 inch). For them there were 2,000,000 '315-inch and an equal number of '43-inch cartridges. The artillery comprised 6 Krupp and 10 mountain guns, with 1,700 common and 1,000 shrapnel shell. There were also 14 naval machine-guns.

80. It may here be mentioned that the Government forces, at the time of the landing at Quinteros Bay, were as follows: First Division, at Santiago, 7,153; Second Division, at Valparaiso, 7,033; part of Second Division, at Angol, 775; Fourth Division, at Concepcion, 7,674; Fifth Division, at Coquimbo, 8,437; Seventh Division, at Valdivia, 775; elsewhere, 669. Total, 32,516 officers and men.

81. The Caldera Brigade sailed thence at 1 p.m. on August 16th. Captain Montt, and Colonels del Canto, Holley, and Körner, were on board the *Almirante Cochrane*.

82. The fleet was organised in three divisions. The Van

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Division was composed of the *O'Higgins*, *Abtao*, *Isidora de Cousiño*, *Limari*, *Magellanes*, and *Biobio*; the First Division, of the *Esmeralda*, *Amazonas*, and *Aconcagua*; and the Second Division, of the *Almirante Cochrane*, *Copiapó*, *Maipo*, and *Cachapoal*. With the fleet there were also the *Condor*, *Huemul*, *Carlos Roberto*, and *Bismarck* (the last, a hired German steamer, being laden almost exclusively with baggage and provisions). Among the latter were 300,000 rations in packages suitable for haversacks. The *Huascar* remained as guardship at Iquiqui.

83. The Van Division was ordered to make for a point fifty-six miles due west of Peña Blanca, and to arrive there at a specified time. Thence, upon sighting the Second Division, the Van was to proceed to a point forty miles west of Limari, whence again, upon sighting the Second Division, it was to push on to a point sixty miles west of Point Liles. The First Division was to follow the Second exactly as the Second was to follow the Van. The fourth rendezvous was to be Quinteros Bay, about seventeen miles to the northward of Valparaíso.

84. Careful orders for disembarkation were issued. Sixteen large batteaux or prahms were built, and carried lashed bottom outwards on the sides of some of the ships. Each was twice as long as it was broad, had overhanging ends like those of a fishing-punt, and could hold from 110 to 150 men. They were not all completed before embarkation, and several were finished on the voyage down. Ladders, by which the troops could enter the batteaux from the ships, were also provided (one for each 150 men), and an officer was told off for the upper end of each ladder, while two seamen were assigned to its lower end in the boat. Arrangements were made for buoys to be laid near the shore as guides, with lines running to the beach, so that boats could be rapidly hauled in and out. Each batteau was also to be towed by a launch. The cavalymen were directed to land with their saddles and bridles in one package, and the crews of the ships were to

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attend to the disembarkation of the horses, which, when in the water, were to be guided to suitable places for walking ashore. The general officers and staff were to be landed in pulling-boats. To every officer and man was allotted one blanket-roll. Every man was, further, to carry two days' provisions, consisting of preserved meat, bread, and packages of sugar and coffee. In the event of opposition being offered to the landing, the commanders of transports and the paymasters were to be responsible for landing the equipment as quickly as possible after the troops had secured a foothold. The men were to carry their rifles in the left hand at the height of the lower band while on the ladders descending to the boats, and, in case of landing through a surf being necessary, the cartridge-belt was to be worn round the neck. Commanders of transports were to provide an abundant warm meal, to be given to the men immediately before the latter were formed up on deck for disembarkation. The formation on deck was to be by companies in two ranks, the captains entering the boats first, and the lieutenants remaining until last at the heads of the ladders. The Van Division was to send vessels ahead to look for mines or torpedoes in the bay, and, if the course should be clear, the other ships were to enter by divisions in column of line ahead at a speed of four knots, and to anchor in designated positions. They were then to be sprung bows outwards; and kedges were to be laid landwards. It was finally ordered that as each vessel should begin to disembark she should hoist a flag half-mast at the fore, and that as soon as the operation should be completed she should haul it close up to the truck.

85. On the evening of August 17th the *Esmeralda* was detached from the First Division in order to proceed off Valparaiso, and there to fire three guns, which would be understood by sympathisers on shore as a signal that the expedition was under way. She arrived off Concon at 11 a.m. on the 18th, and, having there fired her three guns, steamed a little further south, until, at 3 p.m., being within

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range, she was fired at without effect by Forts Valdivia, Andes, and Yervas Buenos. She intercepted a small launch, sent ashore certain communications the nature of which was not made public, and rejoined the fleet on the morning of the 19th. At noon on that day the entire force successfully made the rendezvous sixty miles west of Point Liles. There a council of war was held on board the *Almirante Cochrane*, and the last details were settled with great minuteness.

86. During the following night the fleet steamed at easy speed and in very good order for Quinteros Bay, and at 4 a.m. on the 20th the scouts went in to discover whether or not it was true, as had been reported, that the Balmacedists had placed two rows of mines across the mouth of the haven. Upon the *Biobio* signalling that all was clear, the rest of the ships entered, and took up their appointed berths. That morning, it being somewhat foggy, the Balmacedist torpedo-boats *Sargente Aldea* and *Guale* ventured out of Valparaiso, apparently to observe from seaward what was going on off Quinteros, but were driven back by the *Esmeralda*, *Magellanes*, and *Biobio*.

87. The disembarkation began a little before 9 a.m., and throughout was most admirably managed. The first prahm, being run ashore with its load of men, was left to serve as a kind of landing-stage for the people in the others, and every one, in consequence, got dry-footed to land. Mules and horses were simply dropped into the water and allowed to swim to the sandy shore, and this they all did without mishap. The artillery was landed at specially chosen spots, where the sand was firmer than elsewhere; but beyond this there was no difficulty whatsoever. The sea was smooth, the shore was shelving, and after sunset there was an unclouded full moon. The disembarkation was not completed until about 11 p.m., but as early as 4.30 p.m. troops of all arms belonging to the First and Second Brigades had moved off from the beach. No attempt was made on the part of the defence to resist the landing; but news of it

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reached both Valparaiso and Santiago without delay, and a concentration of government troops was at once begun.

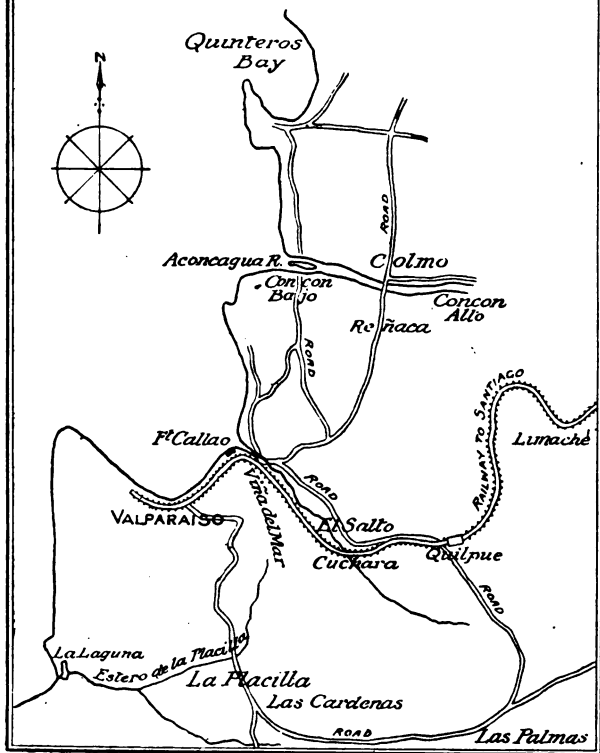
X. THE FINAL OPERATIONS

88. The First Brigade formed the right wing of the advance, and moved southward, parallel with and close to the shore, whence it could communicate with the ships. It was directed to cross the Aconcagua River if possible, and to intrench itself on the level ground in Concon Bay. The Second Brigade was ordered to endeavour to cross the river higher up, at Santa Rosa, near Colmo. The Third Brigade formed the centre and left, but moved at first along nearly the same route. The night march was very arduous for every one, and the Taltal and Tarapacá Regiments (Third Brigade) managed to lose their way, and did not rejoin until 9 a.m. on the 21st.

89. The First Brigade reached the north bank of the Aconcagua at midnight and encamped there. The reason why the crossing, as ordered by Colonel del Canto, was not effected at once was that, as the brigade approached the banks, its advanced guard, a few men of the Libertad Cavalry, observed a cavalry picket on the other side. The presence of this picket seemed to confirm certain unexpected information which had been obtained from the country-people as to the numbers and disposition of the enemy in front; and Colonel Frias thereupon determined not to push on until he had received fresh instructions.

90. Lieutenant Louran, of the German navy, thus describes the line of march of the First Brigade to the Aconcagua: "A road leads across the hilly peninsula which shuts in the Bay of Quinteros on the south-west, and which is about 1,450 yards from sea to sea. Beyond is a tolerably broad stretch of seashore, skirted to the eastward by sand-dunes, and, behind them, by a chain of wooded hills. Near the River Aconcagua the hills come rather close down to the shore, and then make a sharp turn

SCENE OF THE FINAL OPERATIONS OF THE WAR: 1891.



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to the eastward, and, becoming pretty steep, follow the north bank of the stream, into which they almost fall. From the bend upwards the hills form a sheltered valley, in which the troops lay on the night of the 20th. The road at that point is about 10,250 yards from the landing-place, and is very difficult, for the sand is loose, and one sinks over one's ankles into it at every step. Even where the sand is wet it is loose, and forms an equally awkward obstruction." The troops, of course, enjoyed no comforts that night. Proper food was unobtainable, owing to the fact that no fires could be lighted ; and the cold was, for the time of the year, unusual ; yet the men were cheerful and full of enthusiasm.

91. The Second and Third Brigades marched from the landing-place, across a very hilly tract, a distance of about three and a half miles, to Casas de Quinteros, where a detachment remained. The rest pushed southward, and, after posting outposts on the heights near Colmo, about five miles in advance of the camping-ground, lay for the night in the neighbourhood of Dumuño. According to Lieutenant Louran, the road from Casas de Quinteros to the Colmo heights is a broad carriage-way at very varying levels. The valleys are full of small watercourses, which, to render them passable, are partially filled in with stones and bushes. From the Colmo heights several deep gullies lead down to the river-bed ; and these, on the following day, were utilised for the descent of the troops ; for the main road to the river, being steep and exposed, was impracticable in the face of the heavy hostile fire. By the morning of the 21st the Congressionalist forces had occupied all the chain of hills northward of the Aconcagua from the seashore to a point a little to the eastward of Colmo, along a total front of about four miles. On the right was a battery, in the centre were the machine-guns from the fleet, and on the left were two heavy field-pieces.

92. Owing to the fact that ere the end of the week nearly all the Balmacedist leaders were either killed or taken, and

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that those of them who escaped alive had good reasons for abstaining from the writing of despatches, and from the discussion of what they had done against the Congressionalists, very little is known concerning the movements and disposition of the Presidential forces. They occupied, however, a well-entrenched line, about four miles in length, upon the heights on the south side of the Aconcagua. Colonel del Canto estimated their numbers at 11,000 men, but the estimate was certainly in excess of the truth. The river-bed which lay between the foes had an average breadth of 2,000 yards; but the stream was broken up by a number of small stony islets, for a great part destitute of cover, into tolerably rapid channels, most of which were from 15 to 30 yards wide.

93. A few of the islets nearest to the south bank had low vegetation upon them. The south bank rose almost out of the river to a height of from 100 to 150 feet, but was less steep towards the east than towards the west. The Balmacedist troops, according to Lieutenant Louran, had occupied this elevation from Upper Concon to Lower Concon, which is close to the seashore; but this part of the defence was, along its whole length, exposed to the enfilading fire of the Congressionalist warships, as well as to the front fire of the guns on the northern heights. Herein lay the great weakness of the position; for the shells from the *Esmeralda*, in Concon Bay, frequently fell at, and even beyond, Upper Concon, 10,000 yards from the cruiser, and, although they did not cause much loss of life, exercised a most demoralising influence upon the Balmacedists. To what extent schanzes and sangars were built by the defence does not appear. Boers would probably have held the position very stoutly, in spite of its disadvantages.

94. Early on the morning of the 21st the Congressionalist leaders ordered fires to be lighted, and allowed their men to have a proper breakfast. At 8 a.m. the Balmacedists on the south bank began to be visible, moving amid the bushes, and were opened upon by the guns on the northern heights.

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As Colonel del Canto's men were weary, and as the ammunition trains, which were insufficient, had not come up, it was not deemed proper to attack until an aide-de-camp at 10 a.m. reached Colonel Körner, who was at Colmo, on the left wing, with news that co-operation might be relied on. At that hour the fire on the part of the Congressionalists was pretty lively; but it was not then returned, and, in consequence, it was rumoured among the invaders that the defenders possessed no artillery. The fact is that the Balmacedists had decided not to unmask the majority of their batteries until the enemy should attempt to cross the river; yet, by 11 a.m., some of their guns were replying in a spirited way to the fire of the Second Brigade.

95. At 11.30 the First Brigade was ordered to pass the stream nearly opposite Lower Concon. The movement was effected in very good order, and had the result of outflanking the enemy on the west. The Constitucion Regiment was directed at the Balmacedist centre, and the Iquique and Antofagasta Regiments were opposed to the Balmacedist left wing. The cavalry followed the advance; and the opportune arrival of the Taltal and Tarapacá Regiments, which, as has been already noted, had lost their way in the night, enabled Colonel Körner to detach them from the Third Brigade and to assign them as reserves to the First. The crossing actually took place at 12.20 p.m., under a murderous fire from field-pieces and machine-guns, and was supported by shells from the *Esmeralda*, *O'Higgins*, *Magellanes*, and *Aconcagua*, and by the landing, below Reñaca, of a battalion of seamen from the fleet. The men, though sometimes up to their breasts in water, held their rifles above their heads and kept them dry. Then, with hurrahs and vivas, they began slowly to ascend the southern heights.

96. At about the same time the Second Brigade crossed higher up the river, near Colmo, moving with great steadiness, but unfortunately losing between fifty and sixty men by drowning in the stream, which was swollen and rapid. The guns on the high ground in the rear meanwhile covered

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the advance. The Constitucion Regiment, led by Lieutenant-Colonel Lopez, was the first to storm ; and it carried the position in its immediate front with remarkable gallantry. Ten minutes later the Iquique and Antofagasta Regiments delivered their flanking assault on the extreme Balmacedist left, and, after a fierce struggle, gained their object.

97. The Taltal and Tarapacá Regiments, upon the first line of heights being carried, were pushed forward across the river ; while, on the other hand, the Balmacedists, conscious of the importance of the movement, threw all available supports into a second and more elevated line of fortified heights that formed the real stronghold of their left wing. General Alcéraca, who commanded the Balmacedists there, had, it appears, been ordered to retire fighting upon Viña del Mar, but, undervaluing his enemy and burning to distinguish himself, disobeyed. His superiority in field artillery enabled him to make a very good fight around the stronghold, within which he now withdrew ; and for some time the issue of the battle hung in the balance ; but the Iquique and Constitucion Regiments would not be denied, and the Taltal and Tarapacá Regiments, continuing to advance, turned the Balmacedist left, while the Balmacedist right was similarly turned by the Second and part of the Third Brigades.

98. The front of the defence, which, early in the day, had formed a nearly straight line, was doubled back, so that it formed an angle, which grew every moment more and more acute, until at last the cry went up, "We are cut off !" Whereupon the Balmacedists collapsed, and fled as best they might along the very narrow stretch of ground that remained open to them. Between 1,500 and 2,000 men threw away their arms and joined the Congressionalists ; 1,200 more were killed ; and 400 wounded fell into the hands of the victors.*

* In thus killing or wounding about 1,600 men, the Congressionalists expended 1,057,700 rounds of Mannlicher and Gras ammunition. Even if the government loss be placed at 2,200 men—the highest estimate—only about one bullet in 500 found its billet.

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whose total loss did not exceed 300 killed and 700 wounded. All the thirty-six guns of the Balmacedists were abandoned and captured, and the rout was complete.

99. Much of the result was due to the fact that the Congressionalists, as has been said, were in the possession of 4,000 of the new small-calibre magazine Mannlicher rifles ; much to the fact that the government troops fell short of ammunition ; more to the fact that Colonel Körner understood modern tactics, and that General Alcérreca, who commanded for General Barbosa, knew nothing about them. But, in addition, the fire-discipline of the attack was conspicuously superior to that of the defence, and the Balmacedist troops were, in some instances at least, most shamefully deserted by their officers, and fought under their sergeants and corporals. Nevertheless, they fought well. The San Fernando Regiment, which had been taken in flank by the Regiment of Iquique, had but fifty men fit for duty after the action ; the Temuco Regiment lost 520 out of 600 men. History gives few examples of hotter and bloodier battles in which such comparatively small numbers were engaged.

100. General Alcérreca's corps had ceased to exist, yet the Balmacedists had still plenty of troops. On August 22nd, the day after the battle of Concon, General Barbosa, the President's commander-in-chief, had 9,000 men at Viña del Mar ; 4,000 were at Santiago and Quillota ; and at least 2,000 more could have been easily brought up at very short notice had the energy of the defence been equal to that of the attack. The *Almirante Condell* and the *Imperial* were actually despatched to bring up troops from Coquimbo, and, with great ingenuity, they made two passages, but most of the help which they then provided arrived too late to be of use.

101. Almost from the first the defence seemed to be stupefied and half paralysed. Hesitation, confusion, ignorance, and obstinacy reigned in Valparaíso and the capital ; and the handful of invaders, who might have been driven into the sea by a foe capably led, were not at any period

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of the brief campaign once attacked, nor were their lines of communication once threatened.

After the battle of Concon the Congressionalist troops found themselves in some disorder ; but they were very promptly reorganised, and towards evening they advanced by two roads in the direction of Viña del Mar. The western road, a rather steep one, led on to a broad plateau, where the marching became easy. The eastern, very hilly and much more difficult, led ultimately to the same plateau, and to the little village of Reñaca, in the neighbourhood of which, in order to wait for supplies of ammunition from Quinteros, the main body of the army lay on the night of the 21st, and for more than half the 22nd. The cold during the night was most trying, for the men had flung away their coats and ponchos before going into action. They were much inconvenienced, too, by scarcity of food, but they were in good spirits.

102. On the 22nd part of the army continued its advance to the heights northward of Viña del Mar, the Balmacedists retiring. A skirmish took place on the extreme left, but it had no importance. Viña del Mar being found to be strongly held and fortified, and there being no space in which the infantry could be deployed, the Congressionals withdrew again in the afternoon towards Reñaca, and encamped on some high ground where cover was obtainable. During the night of the 22nd the continual noise of trains convinced the Congressionalist leaders that the government was concentrating its forces on Viña del Mar and Valparaiso, and bringing up all available troops by railway from Concepcion and Santiago.

103. On the morning of the 23rd, at break of day, the Congressionalist artillery on the heights to the north of Viña del Mar opened a hot fire upon Fort Callao, whence the Government artillery replied with vigour. The attack was supported by the *Almirante Cochrane*, *Esmeralda*, and *O'Higgins* from seaward ; but those ships, though at times within 7,000 yards of the fort, made wretched practice, and

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did no damage. Nor was the fire from the fort any better, for, on the 22nd, it had fired five rounds at the *Aconcagua*, and had failed to hit her. During the artillery duel the *Almirante Lynch*, the machinery of which was in very bad order, steamed slowly to a position off Fort Andes, and thence opened fire with her poop 14-pounder Hotchkiss on the Congressionalist position. The shells appeared to tell, but, after a few rounds, the breech of the gun blew off, killing the first lieutenant, who was sighting it, and injuring several men, whereupon the vessel returned to her moorings, and there remained until the city fell, when her captain deserted her, and took refuge on board the German flagship *Leipzig*. The occurrence of the accident was attributed to the use of improper powder. Some made at Santiago, and of a very violent character, had been employed.

X 104. The artillery fire of the 23rd was intended by Colonel del Canto and Colonel Körner as a prelude to the storming of Viña del Mar ; but, it being seen that the enemy was very strong there, the attacking force was ordered back into the gorges of the hills, and was sent to breakfast ; and later in the day it retired to Reñaca somewhat discouraged. At 11 a.m. on the 24th the army marched inland in the direction of Quilpue, which it occupied. It also cut the railway between Quilpue and Viña del Mar at Cucharó, by destroying the bridge there.

105. The boldness of this inland march is noteworthy, for the force deliberately separated itself from the fleet, in concert with which up to that moment it had been operating, and, in face of superior numbers, and in the heart of an enemy's country, began an offensive campaign.

106. As this history does not pretend to concern itself with purely military affairs, the course of the war from the 24th to the 28th need not be followed in detail. It will suffice to say that the army remained at Quilpue on the 25th, made a detour by way of Las Palmas, which it reached on the 26th, and Las Cadenas, where it lay on the night of

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the 27th, and early in the morning of the 28th fought and won the bloody battle of La Placilla,* which decided the issue of the campaign, and put Valparaiso at the mercy of the invaders, who began to enter the city at 1 p.m., and completely occupied it by 5 p.m.

107. The *Almirante Lynch* had not surrendered. Troops and rabble took possession of the stone coping at the edge of the sea-wall, and fired at her with musketry. She lay bows outwards alongside the pier at the Naval Arsenal. Her people managed to swing her until her stern was near the landing-pier, and then to fire several rounds up the streets astern of her from a 3-pounder Q.F. gun on one quarter; but presently they leapt overboard or into boats, one hand only remaining to creep aft and haul down her flag. She was then re-secured alongside the pier.

108. This was not the only excess of the rabble; and, to prevent rioting on a large scale, the British, German, and American vessels† present in port sent landing parties on shore by request, and rendered valuable service in the preservation not only of order but also of human life. Before fleeing to one of the foreign warships, Señor Claudio Vicuña, the Balmacedist president-elect, was very anxious to fire upon the crowd with two machine-guns planted outside the Intendencia, but was prevented by the personal interposition of the French and American Rear-Admirals, and of Captain St. Clair, R.N. The parties from the neutral men-of-war remained ashore for two days, at the expiration of which it was evident that the victors were perfectly able to preserve order.

* The losses in this battle on the Congressionalist side were: killed, 485; wounded, 1,124; missing, 131; total, 1,800. On the Balmacedist side 941 were killed and 2,402 wounded; total, 3,343.

† British, *Champion* and *Daphne*; German, *Leipzig* (flag of Rear-Admiral Valois), *Alexandrine*, and *Sophie*; American, *San Francisco* (flag of Rear-Admiral McCann) and *Baltimore*. There were also present the French *Champlain* (flag of Rear-Admiral Parrayon) and *Volta*.

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109. At the time of the fall of Valparaiso the *Almirante Condell* and the *Imperial* were bringing up government troops from Coquimbo or Talcahuano. When they learnt what had happened, they proceeded to Callao, where Commander Moraga, on September 3rd, turned them over to the charge of the Chilian minister at Lima, pending the establishment of a regular government at Santiago. Soon afterwards they returned to Valparaiso. Several small expeditions, which were not opposed, disarmed such Balmacedist forces as remained at Coquimbo and at other points along the coast; but the civil war practically ceased on August 28th, and a very few weeks later it was found possible to repair all the steamers which had been hired or otherwise obtained control of, and to return them to their owners.

110. President José Maria Balmaceda fled from the Moneda in Santiago on the night of the battle of La Placilla, and, three weeks afterwards, put an end to his life.

IV. THE ATTEMPTED REVOLUTION IN BRAZIL, 1893-94

SPEAKING for himself and his brother naval officers in the English service, Robert Blake said, "It is our business not to mind politics, but to prevent foreigners from fooling us." While it cannot be claimed that British naval officers have always lived up to Blake's views of their duties—for the Navy was divided as well during the Parliamentary conflict as at the time of the Revolution of 1688—it may be said with truth that the Royal Navy, for at least two hundred years, has had remarkably little to do with politics, and has been all the better for its abstention.

But the navies of other countries have not been equally abstemious. The revolution in Chili in 1891, as has been seen, was effected mainly by the navy. The attempted revolution in Brazil in 1893-94 was equally, and perhaps indeed even more, a naval movement.

While, however, the Chilian revolution presents us with a picture of a very well-managed and thoroughly successful revolt, the rising in Brazil affords us an illustration of exactly the opposite character. In Chili, Montt secured command of the sea; obtained a distant shore-base, where he gradually assembled and trained an efficient army; transported that army and proper supplies for it, with singular carefulness and yet with striking audacity, to the far-off point whence it could strike with effect; and won his object.

In Brazil, on the other hand, de Mello and da Gama

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muddled matters throughout. They began their campaign with forces so small that they could not properly man their ships*; they permitted their opponents to create a navy for themselves; they made no attempt to secure command of the sea or to meet and fight their enemy's fleet; they never secured an adequate shore-base, either near the scene of their operations or elsewhere; and they omitted to collect anything worthy of the name of a transportable army, with which to supplement and follow up such successes as their ships might achieve.

In the circumstances, and looking to the numerical feebleness and hopeless position of the revolutionary force, it is truly astonishing that a naval revolt, begun in Rio Harbour in September, 1893, was not extinguished even there until March, 1894, and flickered on elsewhere for yet another month. Still more extraordinary is it that, during two considerable periods—the one of two months and a half, and the other of upwards of six weeks—a single ironclad of very moderate size practically held possession of Rio Harbour, in and out of which she passed almost scathless, in defiance of heavy guns and searchlights, and, for aught her officers knew, of mines and torpedoes as well. She was the headquarters and strength of the revolt; and although, like the *Blanco Encalada* in Chili, she was ultimately sunk by a torpedo, she did not go down until she had amply vindicated the enormous importance of the battleship both for offence and for defence.

It is greatly to be regretted, in the interests of naval science, that this ironclad never pitted herself with the heterogeneous and makeshift fleet which little by little the Brazilian government collected ere the revolt was crushed. Had she done so by daylight, and with sea-room, she might have taught the world some valuable and probably startling lessons, besides saving a dying cause.

* At one time the *Almirante Tamandare*, a ship of 4,500 tons' displacement, had but thirty-seven men in her, and this during the thick of the fighting in Rio Harbour.

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The authorities to which I am more particularly indebted for the following are :

a. Charts and information specially supplied to me by Commander Robert S. Rolleston, R.N., Lieutenant W. J. W. Steward, R.N., Mr. Constantine, of the R.M.S.S. Co., and other gentlemen who were in Rio Harbour or on the coast during the operations.

b. An account by Lieutenant C. C. Rogers, U.S.N., in "General Information Series," No. XIII. (Office of Naval Intelligence, Washington). Lieutenant Rogers was an eye-witness of the operations at Rio from November 2nd, 1893, until the surrender of the vessels in Rio Harbour.

c. Official reports of Captain Hofmeier, Imperial German Navy, commanding the *Arcona*.

d. A file of the *Rio News*, up to the date of its suppression by the Government.

e. The telegrams and letters of the Special Correspondent of the *Times* at Rio.

f. Information in the "Proceedings of the United States' Naval Institute," Whole Nos. 69 and 71.

g. My own account of "The Naval Revolt in Brazil" in the "Naval Annual" for 1894. This I am permitted freely to utilise by permission of Lord Brassey, K.C.B.

h. Various Brazilian official despatches and reports.

i. Photographs, lent me by various correspondents, of ships, either in action or after having received damages.

j. A paper in the *Revue Maritime* of March, 1895, by Lieutenant Verlynde, French Navy.

I. OUTBREAK OF THE REBELLION

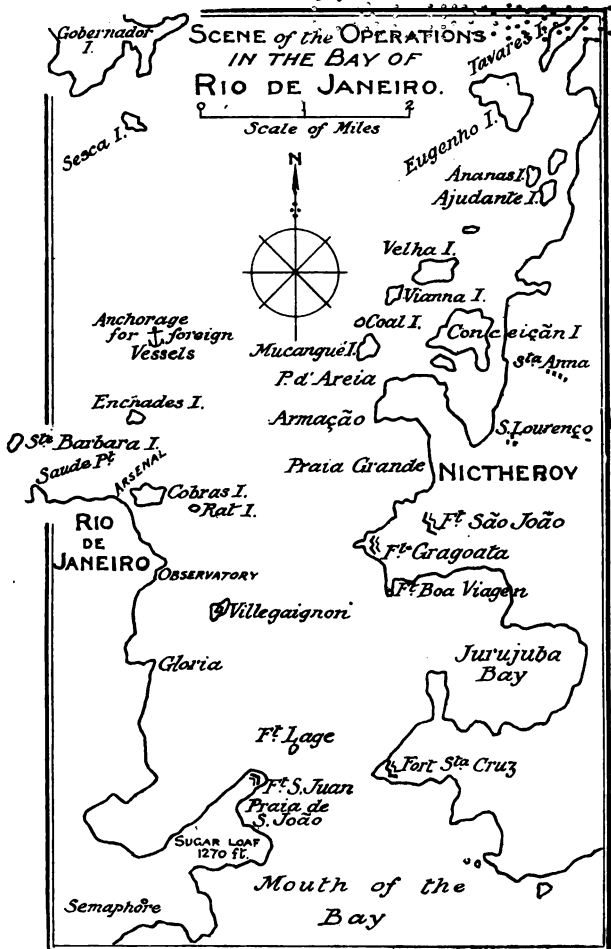
1. For some time before the outbreak, in September, 1893, of the serious naval revolt which, during many subsequent months, threatened the overthrow of the constituted government of the United States of Brazil, much of the country had been in a state of unrest. The deposition of

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the Emperor Dom Pedro, on November 15th, 1889, had been followed by the proclamation of a republican form of government, with, as its President, Marshal Deodoro da Fonseca. That officer, who in course of time had assumed a dictatorship, had, on November 23rd, 1891, been deposed by a *coup d'état*, of which Rear-Admiral Custodio Jose de Mello was one of the leading spirits ; and Marshal Floriano Peixoto had been elevated to the supreme power, Admiral de Mello presently becoming his minister of marine.

2. The change was not satisfactory to the whole of the country, and civil war soon broke out in the state of Rio Grande do Sul, where the governor, Julio de Castilhos, who was upheld by the national troops, found himself opposed, and occasionally hard pressed, by the insurrectionary forces under Gaspar Silveira Martins. While the civil war was causing serious preoccupations, a cabinet crisis occurred at Rio de Janeiro on April 28th, 1893. The minister of finance resigned, and Admiral de Mello also relinquished his portfolio, alleging that he was not sufficiently consulted, and that Marshal Peixoto declined to adopt his schemes for the settlement of Rio Grande do Sul.

3. These resignations no doubt encouraged, if they did not immediately strengthen, the insurgents ; and one of the first results of them was that, on July 6th, 1893, Rear-Admiral Wandenkolk, of the Brazilian navy, secured at Montevideo the merchant-steamer *Jupiter*, and, embarking in her a number of people who pretended to be emigrants, together with a quantity of warlike stores, proceeded to the town of Rio Grande do Sul, off which place he arrived on July 9th. There he seized two small Brazilian war-vessels and several merchant-steamers, and invited the navy to join him. He also made some attempt to take the city, but, the land batteries being too powerful for him, he departed for Desterro, either leaving his prizes behind him, or dispersing them. The central government despatched the *Republica* and the *Santos* to the southward in search of the mutineers. On July 15th the *Republica*, off



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Caraveiras, on the coast of Santa Catharina, fell in with the *Jupiter*, which at once surrendered. The ship, with all on board, was taken to Rio de Janeiro, where she anchored on July 20th. Admiral Wandenkolk was thereupon imprisoned in Fort Santa Cruz.

4. But the unrest continued, and even spread. On the night of September 6th, 1893, Admiral de Mello went on board the battleship *Aquidaban*, which, flying the flag of Rear-Admiral Netto, who was on shore at the time, then lay in the harbour of Rio de Janeiro, and, with the concurrence of the officers and crew, took possession of the vessel, as a first step towards the deposition of Marshal Peixoto and the formation of a new government. All the national ships in port at once joined him, and he lost no time in seizing a number of merchant-vessels, in order to convert them into armed transports.

5. On the two or three following days the leader of the revolt, who had taken the title of Commander of the Naval Insurgent Forces of the United States of Brazil, and who had hoisted in his vessels a white flag at the fore in addition to the Brazilian ensign at the peak, seized the well-stored arsenals and magazines near Nictheroy, opposite Rio de Janeiro, and Ilha do Governador, to the north of the capital, and further occupied himself in fitting out and organising his squadron, which, by September 10th, consisted of the various craft enumerated in the table. The personal strength of the rebel force at Rio did not, however, exceed 1,500 officers and men.

6. At that time the government controlled all the shore defences of Rio Bay except Fort Villegaignon, which, with Enchadas Island, was for the time held in neutrality by Rear-Admiral L. P. de Saldanha da Gama, Director of the Cadet School.

7. The government disposed of Fort Santa Cruz, mounting two 10-inch rifled Armstrongs, with smaller weapons; Fort São João, mounting one 10-inch rifled Armstrong; Fort Lage, mounting three 6-inch Whitworths;

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and Fort Gragoata, south of Nictheroy, mounting at one time, apparently, one 6-inch B.L. gun, and, at another, two 32-pounders; together with several small works, chiefly mounting field-pieces. Including the regiments in the capital, the government had upon the spot between 7,000 and 8,000 men, of whom 5,000 were regulars. All were armed with Mannlicher rifles.

8. But afloat the government was, from the first, almost powerless in Rio Harbour, for it had no vessels there larger than tugs and launches. Elsewhere there were several loyal vessels, some of which, as will be seen, were able to make their power felt towards the close of the operations. The battleship *Riachuelo*, and the cruiser *Benjamin Constant*, were undergoing repair or rearmament at La Seyne, near Toulon, and were loyal. At Montevideo, nominally loyal, yet suspected of revolutionary tendencies, were the new gun-vessel *Tiradentes*, the old monitor *Bahia*, and the gunboat *Iniciadora*. The *Tiradentes* was in dock, and, as a precaution, had been deprived by the Brazilian envoy of some essential parts of her machinery. The *Iniciadora* was also in dock. At Bahia, loyal, but short-handed, owing to desertion, were the composite gun-vessel *Primeiro de Março*, and the old wooden gunboat *Braconnot*. Elsewhere, and equally loyal, were the small composite cruiser *Paranahyba*, the gunboat *Cabedello*, and a few other craft; and expected from Europe was the torpedo-gunboat *Aurora* (afterwards *Gustavo Sampaio*), which, begun on the Tyne by Messrs. Scott & Co., had been sold to Sir W. G. Armstrong, Mitchell & Co., and by that firm completed and disposed of to a Brazilian agent. For these vessels upwards of 5,000 officers and men, out of a total legal naval force of 7,220, remained available, but most of them were in the shore depôts. In the course of hostilities the loyal squadron was strengthened by means of miscellaneous craft, acquired chiefly in the United States. A full list of the loyalist ships that were available towards the period of the collapse of the revolt is given in the table on p. 195.

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9. In the harbour of Rio de Janeiro, Admiral de Mello was practically supreme afloat, but almost powerless on shore. He had a footing, it is true, in the Armação at Nictheroy, but, probably owing to lack of men, he never held the place properly. He had also, as has been said, Ilha do Governador, three miles to the north of Rio, and one or two smaller islands; but he had not a single permanently fortified post on land. The neutral attitude of Admiral Saldanha da Gama at Fort Villegaignon and Enchadas Island was, however, negatively beneficial to the insurgents, for the fort mounted thirty-seven Armstrong guns of some size, and six Whitworths. Nictheroy was the key to the situation. If the rebels could take it, they could cut off Fort Santa Cruz from government aid by land. The fort would then fall an easy prey, and its fall would necessarily be followed by that of Forts Lage and São João, which it commanded. After that Rio de Janeiro would be defenceless.

II. THE OPENING OF HOSTILITIES

10. In the first days of the outbreak there were no important offensive movements on either side, only desultory firing taking place between the naval and the land forces, especially on the Nictheroy side; but on September 11th the government proclaimed martial law for a period of ten days; and at 9 a.m. on the 14th the *Aquidaban*, *Republica*, and *Trajano* took up positions before the forts at the entrance to the harbour, and opened an ill-directed fire, which was replied to. Both sides made execrable practice, and did so little damage that it almost appeared as if they deliberately avoided it. After an action of six hours the ships withdrew.

11. On the morning of September 17th the *Republica* and *Marcílio Diaz*, under a heavy fire from all the government guns that would bear, ran safely out of harbour. Next day they were followed by the *Pallas*, and another

THE INSURGENT SQUADRON

NAME	CLASS	TONN.	H.P.	LAUNCH.	ARMAMENT.
<i>Aquidaban</i>	Ironclad Battleship.	4,060	6,200 I.	1885	4 9-2-in. B., 15 7-in. B., 6 4-7-in. Q.F., 2 6-pr. Q.F., 11 1-1-in. Nordenfelta, 5 46-in. Nordenfelta, 5 Torpedo-tubes.
<i>Almirante Tamandare</i> ..	Protected Cruiser. .	4,500	7,500 I.	1890	10 6-in. Q.F., 3 4-7-in. Q.F., 5 small Q.F. and Machine guns, 9 Torpedo-tubes.
<i>Jaurey</i>	Ironclad Monitor.	3,600	2,500 I.	1875	4 10-2-in. M., 4 1-in. Nordenfelta, 2 Machine guns.
<i>Guanabara</i>	Wooden Cruiser.	1,900	3,600 I.	1877	9 5-7-in. M., 2 1-in. Nordenfelta, 2 " "
<i>Trujano</i>	"	1,400	2,400 I.	1873	6 4-in. M., 2 1-in. Nordenfelta, 2 Machine guns.
<i>Madreia</i>	Iron Paddle Transport.	1,200	1,200 I.	1873	2 9-pr. B.
<i>Purús</i>	"	1,200	1,200 I.	1874	2 12-pr. S.M.
<i>Republica</i>	Protected Cruiser.	1,200	1,200 I.	1893	6 4-7 Q.F., 4 6-pr. Q.F., 6 Machine guns, 4 Torpedo-tubes.
<i>Marajó</i>	Steel Gunboat.	430	300 I.	1885	2 6-in. B., 2 6-pr. Q.F., 2 " "
<i>Alagoas</i>	Wooden Monitor.	343	180 I.	1867/88	15 7-in. M.
<i>Liberdade (ex Alfonso Ode)</i>	Wooden Gunboat.	260	280 I.	1884	4 12-pr. 4 1-pr. Q.F., 4 1-in. Nordenfelta.
<i>Marcello Dias</i>	Thornycroft Torpedo-boat.	106	1,550 I.	1891	2 3-pr. Q.F., 4 Torpedo-tubes.
<i>Aguatony</i>	"	106	1,550 I.	1891	2 " " " "
<i>Four Torpedo-boats</i>	"	53	800 I.	1883	2 1-in. Nordenfelta, 2 Torpedo-tubes.
<i>Venus (ex P. da Omalha)</i> ..	Yarrow 110-ft. boats.	1,171	200 N.	..	Small Q.F. and Machine guns.
<i>Jupiter</i>	Armed Merchantman.	1,134	200 N.	..	1 32-pr., 2 6-pr. Q.F., 1 3-pr. Q.F., 4 12-pr.
<i>Mercurio</i>	"	1,131	200 N.	..	Small Q.F. and Machine guns.
<i>Maria</i>	"	1,121	185 N.	..	4 2-pr. Q.F., 2 1-in. Nordenfelta.
<i>Ureno</i>	"	1,119	185 N.	..	2 6-pr. Q.F., 2 3-pr. Q.F., 2 1-pr. Q.F., 4 1-in. Nordenfelta.
<i>Mascaro</i>	"	1,082	118 N.	..	4 3-pr. Q.F., 4 1-in. Nordenfelta.
<i>Pallas</i>	"	846	150 N.	..	Small Q.F. and Machine guns.
<i>Esperanza</i>	"	823	150 N.	1887	..
<i>It-ís</i> .. .. .	"	..	..	..	..

NOTE.—Some of the medium and small guns of several of the regular warships in the above list were removed in the course of the conflict for employment elsewhere.

THE GOVERNMENT SQUADRON

NAME.	CLASS.	TONE.	H.P.	LA. ACQRED.	ARMAMENT.
<i>Riachuelo</i> *	Ironclad Double-turreted Battleship.	5,700	7,300 I.	1883	4 9-2-in. B., 6 4-7-in. Q.F., 2 3-pr. Q.F., 16 Machine guns, 5 Torpedo-tubes.
<i>Rakha</i> ..	Ironclad Monitor.	1,000	1,640 I.	1885	27-in. M., 2 Machine guns.
<i>Gustavo Sampedo</i> (ex <i>Aurora</i>)	Torpedo Gun-vessel.	1,495	2,300 I.	1893	2 20-pr. Q.F., 4 3-pr. Q.F., 3 Torpedo-tubes (14-in.)
<i>Benjamín Constant</i> ..	Steel Protected Cruiser.	2,750	..	1892	4 5-9-in. Q.F., 8 4-7-in. Q.F., 2 12-pr. Q.F., 6 1-pr. Q.F., 4 Machine guns, 4 Torpedo-tubes.
<i>Paranáhyba</i> ..	Composite Corvette.	840	900 I.	1878	..
<i>Príncipe de Maro</i> ..	Composite Cruiser.	780	760 I.	1881	..
<i>Tiradentes</i> ..	Torpedo Gun-vessel.	800	1,200 I.	1893	..
<i>Cabedelo</i> ..	Steel Gunboat.	200	200 N.	1886	..
<i>Cananea</i> ..	"	210	400 I.	1890	..
<i>Brasmat</i> ..	Wooden Gunboat.	160	160 I.	1872	..
<i>Nickaroy</i> (ex <i>El Cid</i>) ..	Steel Merchantman.	7,080	4,000 I.	1893	1 15-in. Pneum., 1 4-7-in. Q.F., 2 33-pr. Q.F., 8 6-pr. Q.F., 9 1-pr. Q.F., 2 Machine guns, 4 Torpedo-tubes, 1 dirigible Torpedo.
<i>Andrada</i> (ex <i>America</i> , ex <i>Britannia</i>) ..	Iron Merchantman.	2,800	3,800 I.	1890	2 4-7-in. Q.F., 2 14-pr. Q.F., 6 6-pr. Q.F., 6 1-pr. Q.F., 4 Torpedo-tubes, 1 Sims-Edison Torpedo.
<i>San Salvador</i> ..	Merchantman.	..	..	..	..
<i>Itaipu</i> ..	"	..	..	..	..
<i>Santos</i> ..	"	..	..	..	..
<i>Mozolo</i> ..	Yarrow 40-ft. Torpedo-boat.	16-5	230 I.	..	1 1 pr. Q.F., 1 Torpedo-tube.
<i>Phraissay</i> (ex <i>Destroyer</i>) ..	Ericsson Torpedo Gunboat.	..	(10 knots)	..	21-pr. Q.F., 1 Torpedo-tube, 1 Submarine gun.
<i>Indanauay</i> (ex <i>Felsen</i>) ..	Herrschoff Yacht.	30	(18 knots)	..	1 1-pr. Q.F., 1 Torpedo-tube.
<i>Pedro Afonso</i> ..	Wooden Yacht.	17	(26 knots)	1883	..
<i>Pedro Ivo</i> ..	Schichau 192-ft. Torpedo-boat	130	2,200	1893	..
<i>Silvado</i> ..	"	130	2,200	1893	..
<i>Two Torpedo-boats</i> †	"	130	2,200	1893	..

* Under reconstruction in France.

† These two boats were lost—one by collision with the *Gustavo Sampedo*, and the other by wreck—are they could be utilised in the attack on the *Agaidaban* in April, 1894.

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of the armed merchantmen, both protected by cotton bales, after the fashion set by the Americans in the War of Secession, and by the torpedo-boat *Iguatemy*. None received any serious hurt. Their object was to convey material and moral support to the rebels in Rio Grande do Sul, and to hold the island of Santa Catharina, the seat, from that time, of the revolutionary government.

12. The foreign war-vessels in harbour during these events were anchored to the north-east of Enchadas Island, and consisted of the *Sirius*, *Beagle*, and *Racer* (British), *Aréthuse* (French), *Giovanni Bausan*, *Dogali*, and *Sebastiano Veneiro* (Italian), *Arcona* and *Alexandrine* (German), and *Mindello* (Portuguese). The senior officers of each nationality promptly met, and adopted such measures as seemed reasonable for the protection of neutral trade, and of foreign life and property.

13. A bombardment of the city had been threatened by the insurgents for the night of September 18th; but the British, United States, French, Italian, and Portuguese ministers held a conference, and advised the commanders of the foreign war-vessels to take any measures that might be deemed necessary for the prevention of such bombardment. This the latter agreed to do. Simultaneously a note was addressed to the Brazilian minister of foreign affairs, apprising him of the action taken by the diplomatic corps, and requesting the government to abstain from doing anything that would afford the rebels a pretext for firing on Rio de Janeiro. Admiral de Mello obtained unofficial cognisance of what had been decided upon, and agreed not to fire upon the city unless fired upon from it; and so for the time it looked as if the capital would be spared the horrors of a bombardment. But no similar action was taken with regard to operations on the Nictheroy side; and that place was frequently fired upon, although the rebels gained no new foothold in it.

14. Nothing of great importance occurred on the 20th and 21st. On the latter day, however, news arrived of

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the appearance of the *Republica* at Santos, and government troops were ordered to reinforce São Paulo. At three o'clock in the afternoon of September 22nd hot firing took place between Fort Santa Cruz on the one hand, and the *Aquidaban*, *Trajano*, *Guanabara*, and one of the torpedo-boats on the other. Neither side suffered much, although 160 shells were thrown; but a shot, falling in the city, killed two people. On the 23rd, in the course of a further action with Fort Santa Cruz, the *Guanabara* was struck by a shell. On that day the fort fired eighty-five projectiles. Firing was continued on September 24th.

15. On the 25th about 500 government troops assembled at the Custom-house for the purpose of crossing the channel to Cobras Island, which thus far had been neutral, and was occupied by the Naval Hospital and guarded by cadets of the Cadet School. Admiral da Gama had caused the Red Cross to be hoisted over the place. Seeing that the island, if held and fortified, might be used against the insurgents with considerable effect, the government determined, if possible, to seize it; but the rebels got wind of the intention, and the *Aquidaban*, taking up a suitable position, held herself in readiness to fire on the first boat when the soldiers embarked. Some sort of movement in that direction was made at 4 p.m., whereupon firing began and was continued for half an hour, the batteries on São Bento and Castle Hills having some attention paid to them, and shells falling in various parts of the city.

16. At length the troops retired from the Custom-house; but they reassembled on the 26th to renew the attempt, and again, as an incident of their repulse, the city was partially bombarded. Many buildings were damaged, but the loss of life was small. On the 27th there was a lull, but something like panic reigned in the city, business was suspended, and the shore batteries were ordered to fire on any vessel that might come within range. On the 28th there was a sharp engagement at Ponta do Caja,

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S. Cristovão, where the ships and launches of the squadron were in the habit of coaling. The rebels on that occasion took six lighters of coal belonging to the Brazilian Coal Company.

17. In the course of September 29th a launch, flying the British white ensign, was observed near the *Aquidaban*; and, upon a boat being sent from H.M.S. *Sirius*, Captain W. M. Lang, to investigate, it was found that the launch contained two Brazilian officers, an American named Boynton, an Englishman, and others, together with a torpedo. It subsequently appeared that Boynton, who had been promised £25,000 for the successful prosecution of the business, was preparing to blow up the *Aquidaban* by means of 100 lbs. of dynamite. These adventurers were taken on board the *Sirius*, and Boynton was later handed over to the commander of the U.S.S. *Charleston*, and sent to the United States; but it does not appear that this disgraceful abuse of a neutral flag was ever adequately punished. The launch, which became a prize to the *Sirius*, was an unusually fine one.

18. As regards active hostilities, the 29th was uneventful, but on the 30th, at 2 p.m., a vigorous bombardment of Fort Santa Cruz began. It lasted for two hours, and, in the course of it, 190 projectiles were fired by the ships, and about 400 by the defences.

19. The following details of some little damage done on this occasion to the *Aquidaban* were noted on the spot by Unter-Lieutenant von Obernitz, of the German navy. He speaks of five projectiles in particular. No. 1, probably a 6-inch shell, passed through the deck into the admiral's sleeping-cabin, and there burst. Bulkheads were destroyed, but no fire was occasioned. No. 2, a 6-inch solid shot, penetrated the starboard side, and struck a 5·7-inch shell standing in the rack on the battery deck. The shell, which was ready fused, exploded, wounding an officer and three men. No. 3, a shell, penetrated on the starboard side, into the admiral's bath-room, but apparently did not burst,

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although it caused a certain amount of destruction of fittings. No. 4, a shell, penetrated on the port side amidships, and burst in a port coal-bunker. The orifice in the ship's plating—there being no armour at that spot—was only of the size of the circumference of the projectile. In the inner wall of the coal-bunker there were two irregular holes, through which fragments penetrated further, and wounded a man. No. 5, a solid shot, struck the armour shield of the port bow gun, but did no damage sufficient to impair the working of the weapon. In addition, several solid shot struck the armoured portions of the hull, most of them leaving only slight indentations. Admiral de Mello collected five 6-inch Whitworth projectiles which came on board that day, and set them up in his cabin. The ship's injuries were insignificant.

20. At about that time President Peixoto was induced by the foreign ministers at Rio to dismantle some of the batteries, the existence of which had formed Admiral de Mello's pretext for firing upon the city. One only remained at São Bento, on the Arsenal Point, with some slight works on Castle Hills, when, on October 5th, at 7 a.m., part of the revolted squadron took up a position off the *Sau de Trapiches*, and sent in two launches with orders to capture the coasting-steamer *Barão de São Diego*, which was discharging cargo at the Dom Pedro II. docks. Fire was opened upon these launches as well from the São Bento Battery and Castle Hills as from the small-arms of the troops on shore; and, as the supporting ships shelled the shore hotly in return, the city again suffered in a slight degree. In consequence, on the 6th, directions were given for the dismantling of São Bento and the Castle Hills batteries, that there might be no further excuse of provocation.

III. FORT VILLEGaignON JOINS THE INSURGENTS

21. On October 9th Fort Villegaignon, with its garrison of 700 men, ceased to be neutral, and, hoisting the white

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flag, went over to the insurgents. On the following day it supported the ships in the first general attack upon Forts Santa Cruz, São João, and Lage. The *Javary* and the *Guanabara* were anchored at the same time off Nictheroy, and kept up an occasional fire upon that town, in order to prevent the government from erecting fresh works there. The firing on both sides was warm, but, especially on the government side, very indifferently directed. On that and previous occasions hundreds of projectiles were thrown at the wooden corvette *Trajano*, yet she received no damage worth mentioning. Nor did the forts greatly suffer. An enormous proportion of shots fell short. This has been attributed rather to the bad or varying quality of the powder used than to the inefficiency of the gunners; yet reports from persons who carefully watched the practice show that badness of powder alone cannot explain the wildness of the firing, and many eye-witnesses have declared their conviction that the wretched shooting at that period was, to some extent at least, intentional. From that time forward the bombardment of the forts was renewed at frequent intervals. On several occasions the rebels tried in vain to land small parties of men.

22. On the night of October 12th the armed merchant-steamer *Urano*, with about 200 insurgents on board, succeeded in running past the forts, her object being to reach Desterro, and to assist in holding the island of Santa Catharina. She was badly hit, especially by machine-gun fire from Fort Santa Cruz, as she went out; and about forty of her people were killed or wounded. A great many of the survivors, becoming panic-stricken, left her in boats for the shore, where they were taken prisoners by the government forces. Injuries to her machinery obliged her to anchor outside the harbour, and within range of the outer forts. It appears that later, after Paranagua had been captured by the rebels, she was sent thither.

23. At about the time of the exit of the *Urano*, Admiral de Mello renewed his threat to bombard the capital, alleging

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as his excuse the supposed manufacture of torpedoes at the government arsenal. There were also rumours that the insurgents would declare a blockade. On the 14th the establishment of "the Provisional Government of the United States of Brazil," with its seat at Desterro, capital of the state of Santa Catharina, was formally announced, and a request was made that the principal powers would recognise the insurgents as belligerents. This, however, they declined to do, the rebels not having such political organisation or status as seemed to demand recognition. In fact, the small island of Santa Catharina was at the time the only part of the state of the same name that was in the hands of the insurgents, and the island had a population of but 12,000. Moreover, the federal government was adopting military measures against Desterro, and the situation of the rebels there appeared precarious.

24. Towards the end of October the operations near Rio de Janeiro became more active. On the 20th the *Jupiter*, in trying to pass the forts at the mouth of the bay, ran aground under their guns ; yet, though she was fired at, she got off and returned to the inner harbour.

25. The insurgents had previously begun to remove to the ships guns and large quantities of ammunition from the Armação at Nictheroy, and had occupied, and betrayed some intention of fortifying, Mocangué Island. On October 25th, therefore, the government troops at Nictheroy made a resolute attempt to seize the Armação, and so to prevent the further strengthening of the rebel position in that quarter. But the effort failed. On the same day, in the course of the firing, the ships, aided by Villegaignon, silenced Fort Lage for a time ; while, on the other hand, in the afternoon, a shell from a field-gun at Nictheroy blew up a temporary magazine which the insurgents had established at Mocangué, and destroyed eighty tons of powder. By the night of the 27th the rebels had mounted a battery of guns, said by some to be 4-inch Whitworths, and by others to be quick-firers, on the same island, and on the 28th a hot fire was opened

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between them and the government works on Areia Point ; but little harm was done.

26. On the 29th Villegaignon suffered considerably from the guns of São João and Santa Cruz, which between them fired 329 projectiles. The rebel fort replied with but fifty-nine, and of them only eight were of heavy calibre. On the 30th a body of insurgents landed at Barreto, a suburb of Nictheroy, with the object of turning the government troops which were continually attacking the Armação. Their action was supported by the mounting on Mocangué of a heavier gun than had been there previously. This gun, on the following day, made itself heard, when, to divert attention, Admiral de Mello sent a couple of his small craft to annoy with gun-fire the troops posted on the hill behind Gloria and along the Praia do Flamengo. São João and Lage, in retaliation, vigorously renewed the bombardment of Villegaignon.

27. The early days of November were utilised by the insurgents in further attempts to turn the government position at Nictheroy. For that purpose the *Guanabara* was towed within range of Santa Anna, though she still continued to fire on Areia Point. The *Almirante Tamandare* and *Javary* also took up positions to enable them to shell the town. At 3.37 p.m., on November 3rd, occurred the lamentable explosion of insurgent magazines on Ilha do Governador, whereby Lieutenants Moubray and Tupper, Mr. Harris, boatswain, R.N.,* and two seamen, belonging to the British squadron, lost their lives, they being at the time close to the spot in search of sand. Four other seamen were seriously hurt. The disaster was undoubtedly due to the enterprise of government emissaries, and to the bad watch kept by the insurgents over their depôts, and not to the effects of gun-fire. Marshal Peixoto, at a convenient spot on shore, is said to have waited for and witnessed the

* Beauchamp St. John Moubray, a lieutenant of 1883, was first lieutenant of the *Sirius*. Charles George de Beauvoir Tupper, a lieutenant of 1892, was third lieutenant of the *Racer*. Robert Harris, of the *Sirius*, was a boatswain of 1878.

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explosion, which destroyed upwards of 100 tons of prismatic and pebble powder, several hundred barrels of rifle powder, and much other ammunition, including 200 loaded 10-inch Whitworth shells, which burst at intervals during a couple of hours.

28. The foreign representatives at Rio had reason for hoping that the action of Marshal Peixoto in dismantling the shore batteries, and the promises of Admiral de Mello, would protect the capital from further annoyance; but their expectations were disappointed by an unforeseen incident which occurred on November 4th, when a soldier in front of the Misericórdia Hospital thoughtlessly and without authority fired his rifle at Fort Villegaignon. This petty episode was interpreted as an excuse for reprisals; and on several subsequent days both Villegaignon and the ships fired with small-arms and machine-guns at the troops on shore. Several non-combatants were killed.

29. On the 5th Villegaignon was much troubled by the excellent practice of some field-guns on the heights above São João, and, for a time, was nearly silenced. On the 6th, 8th, 9th, 11th, and 15th especially many people on shore were hit. On the 8th the action between the forts was unusually heavy, the government guns throwing 597 and those of Villegaignon 177 projectiles, many of which were large ones. A 10-inch Armstrong rifled gun, called "Vovo," at São João, was dismounted, though it was repaired by the 20th, when it fired four rounds at Villegaignon; and a shell from a gun at Santa Cruz, or a field-gun on shore, struck and sank a torpedo-boat* which lay in the centre of the harbour near the *Aquidaban*. From about that period

* The boat, if struck from Santa Cruz, was 6,000 yards from the gun. Upon being hit, she shoved off from the battleship, and was taken in charge by two tugs, but at once began to settle down. Her funnel at length disappeared, and her stern rose until she appeared to stand on end. She then sank vertically. The British torpedo-boat No. 75 sank in the same manner, after collision with one of her consorts, during the naval manœuvres of 1892.

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the rebel gunnery improved a little. On the 10th Villegaignon dismounted a gun in Fort Lage, which on that day and also on the 12th suffered severely.

30. The usual anchorage of the *Aquidaban* up to that time had been midway between Nictheroy and Fort Villegaignon. On the morning of November 11th the *Traiano* was found to be at anchor between the latter and the wharves of Rio de Janeiro. During the afternoon she fired upon the city front in the neighbourhood of the Custom-house, and a tug landed a force from the *Aquidaban*. This force seized the Custom-house, and for more than an hour, from its towers and roof, kept up an incessant fire upon the government troops; but, no advantage being gained, the party re-embarked at about 4.30 p.m., and, while returning to the flagship, fired upon the city with boat-guns and small-arms. A few shots from one of the works at Nictheroy caused the withdrawal of an armed merchantman which lay off that town.

31. In the meantime some sort of government had been organised at Desterro, with Don Frederico Guilherme Lorena, a captain in the navy, at its head. He had a cabinet of two ministers, one of whom held the Naval, Public Works, and Interior portfolios, and the other the portfolios of War, the Treasury, and Foreign Affairs. There were also established a Legislative Assembly, a Supreme Court, and some of the machinery of an army and navy. Nothing worth calling an army was, however, collected; and without an army the insurgent fleet, of course, could gain no permanent success.

32. During the nights of November four searchlights were worked by the government in Rio Harbour—one at São Lourenço, one at Caja Point, one on Gloria Hill, and one in Fort São João—and one was worked by the rebels from the *Aquidaban*. The Gloria light, which was within a port, and had a limited range, was intended for the service of the police, and there was a kind of understanding that it was not to assist the forts at the harbour mouth in

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night attacks upon Villegaignon. But one night, when the light was turned upon Jurujuba Bay, between Forts Santa Cruz and Boa Viagen, Villegaignon fired three times ; and, a little later, fired again, the light being turned upon the squadron, then anchored near the mouth of the bay. During the same night a torpedo-boat was seen rapidly approaching Praia do Flamengo under the rays of this light, and Villegaignon fired thrice with a quick-firing gun. The boat fired towards the shore. Two hours later she returned, and, having been brought under the rays of the light when off Santa Lucia quay, she fired at the projector on Gloria Hill. It was noticed on both sides that searchlights were not an unmixed good. They were found very trying to the eyesight ; and, as an observer on one side of the beam could not see what was happening on the other side, the lights sometimes proved more confusing even to friends than to foes.

33. The other developments of the middle of November included the occupation and fortification by the insurgents of Rat Island (Ilha Fiscal), the seat of the Custom-house ; the renewed attempts of the garrison of Nictheroy to prevent the rebels from drawing further supplies of guns and ammunition from the Armação ; the commissioning of the *Almirante Tamandare* ; the throwing up by the government of many new works on the sea-front of Rio de Janeiro ; and further firing upon the city, on the hills behind which several guns had been mounted.

34. On November 22nd an event of more special interest occurred. During the forenoon occasional shots had been fired by the *Trajano* at the Nictheroy batteries, and at noon a warm action began between Forts Santa Cruz, São João, and Lage on the one side, and the *Aquidaban*, *Trajano*, *Javary*, and Fort Villegaignon on the other. The *Javary* for some time had been frequently engaged, particularly with Fort Gragoata and the shore batteries between that point and the Armação, and the repeated concussions appear to have badly shaken her by no means modern hull. Soon after 3 p.m. she was observed to be sinking. Several tugs

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and launches went to her assistance, and endeavoured to tow her up the bay into shallow water ; but ere she had made much progress it became clear that she could not be saved, and her crew was removed. Her heavy guns, however, had been left loaded, and, aware of this, a seaman at the last moment returned alone, and managed to fire both of them at the Arsenal of War only a minute or two ere, at 3.45 p.m., the vessel careened to starboard, and sank at the man-of-war anchorage near Fort Villegaignon. The vessel had been frequently struck by projectiles from the forts, but these had not seriously damaged her, and the fatal leak occurred in a position which, having regard to the lie of the ship at the time, no shell from the enemy could have reached. It must therefore be concluded that the shaking occasioned her loss, though it is but natural that the government attributed the catastrophe to the effect of its own gun-fire. Nearly all the evidence, however, goes to disprove this.*

35. On November 24th Fort Villegaignon was bombarded by Santa Cruz and São João, and had a heavy gun dismounted by a shell from the latter. On the same day a shot from one of the Nictheroy batteries sank a rebel launch.

36. On November 26th government troops from Nictheroy occupied the Armação, and at about 4 p.m. were fired at by the *Trajano* and *Jupiter*. On the 27th those vessels renewed their attack at 2 p.m., and were assisted by the *Aquidaban* and several launches. The brunt of the affair was borne by the launches, the people in which handled their craft well, and displayed as much bravery as skill. The supporting ships chiefly employed their smaller guns, firing their heavy ones only occasionally. As Fort Gragoata, with its single big weapon, much annoyed the *Trajano*, the *Aquidaban*, with a view to relieving her consort, fired two

* Of two observers who at the time were watching from a neutral warship, one certainly thought that a shell from São João had just previously fallen close to the ship, and the other that the shell had actually struck her deck forward.

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rounds from her forward turret guns, but did no particular damage. In the event the rebels were repulsed, but the presence of the ships prevented the government forces from holding the Armação properly, and for some little time afterwards both sides drew supplies from it. On that particular day firing ceased at 5.30 p.m., but at 9.15 p.m. the *Trajano* fired two rounds at the Arsenal, while the *Aquidaban* held her searchlight upon it. After midnight the *Jupiter* threw an occasional shell, and at noon on the 28th the *Trajano* resumed, and the two vessels kept up a slow fire until after dark. At 8 p.m., after a brief cessation, there was a renewed attack, in which the *Aquidaban* participated as well with her searchlight as with her 5·7-inch guns.

37. During the 29th and 30th the *Pereira da Cunha* (subsequently renamed *Venus*) and the *Guanabara* also assisted, the latter, under cover of darkness, being towed into position by a tug; but although, during most of the time, an armed force in launches was still endeavouring to reduce the Armação, its efforts were in vain. On the 28th a tug towing the *Trajano* was struck by a shell and sunk; and on the 29th a 5·7-inch projectile from the *Guanabara* penetrated the north wall of Fort Gragoata, and a shell from the fort burst on the ship's deck. At about the same date the transport *Madeira* was set on fire by a bursting shell, and an attempt by the *Trajano* to seize a coal-wharf near the Armação was repulsed.

38. Elsewhere the important incidents of this period were the wreck of the insurgent vessel *Pallas* near Santa Catharina, and the arrival at Pernambuco of the new torpedo-vessel *Aurora*, which, renamed *Gustavo Sampaio*, materially increased the strength of the Government naval forces.

IV. SORTIE OF THE "AQUIDABAN"

39. On the night following the last day of November occurred the most instructive episode in the history of the early part of the campaign. On the 28th Admiral de

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Mello, through his flag-lieutenant, had informed the neutral naval commanders of his intention to leave the bay, but did not specify his destination.

40. Captain Hofmeier, of the German navy, writes : "At about 12.30 a.m. the *Aquidaban*, in company with the armed steamer *Esperança*, and under the full glare of the searchlights of Santa Cruz* and São João, departed, being fired at by every gun in the forts at the harbour mouth, and both ships spiritedly returning the compliment. It was exceedingly interesting to watch how the ironclad made every possible endeavour to draw upon herself the beams of the searchlights, in order to facilitate the exit of the steamer. The two vessels went first to Ilha Grande,† where they filled up with stores, and, it seems, took whatever government funds they could find, and then steamed on to the southward. An officer of H.M.S. *Beagle*, to whom Admiral de Mello showed his ship while at Ilha Grande, reported that the *Aquidaban* had received a shell in one of her coal-bunkers, and that a large number of small projectiles had fallen on deck, but that the vessel had sustained no sort of serious damage, and that not a man of her people had been killed or wounded. A shell had passed through the *Esperança*, which had had a cylinder somewhat injured, and a few men wounded,‡ but neither the working of the machinery nor the seaworthiness of the vessel had been interfered with. Bearing in mind that the departure of the ships had been, so to speak, announced beforehand, that the searchlights worked admirably, and that three forts commanded the passage at a range not exceeding seven cables, one must admit that the success of this smart and cleverly carried out affair was very much owing to good fortune."

* This is a slip. Santa Cruz had no searchlight if all other accounts may be trusted. But the Gloria searchlight was used.

† A quarantine station sixty miles from Rio. From Ilha Grande the *Esperança* went to Desterro.

‡ The chief-engineer was killed.

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41. The *Esperança* preceded the flagship on the way out, and both the flagship and Villegaignon returned the government fire. In the course of the affair the Gloria searchlight seems to have been extinguished by a shot from Villegaignon, and the São João searchlight to have been damaged. The *Aquidaban* used no lights, and, as she reached the open, she stopped for a while to throw a few shells at the Military School.

42. A British naval officer who witnessed the sortie writes: "From the manner in which Admiral de Mello's 10-knot ships passed the forts at such close range, under so heavy a fire, and on a clear night, it seems to me that it would always be fairly safe at night to run past any fort the guns of which were without illuminated sights. These alone will enable the battery to be worked in comparative darkness, and objects outside to be properly seen." When the *Aquidaban* returned in January, she entered in the early morning, and caught the forts napping.

V. DA GAMA TAKES COMMAND IN THE BAY

43. Some time previous to this Admiral da Gama had practically thrown in his lot with the insurgents. He now gave them his sword, his influence, which was considerable, and Enchadas Island, with its valuable hospital and other buildings. At first he did not assume direction of the operations in the harbour. In the meanwhile, on the afternoon of December 3rd, the *Almirante Tamandare*, which, with only one engine completed, could not steam at more than six knots, took up the *Aquidaban's* old anchorage between Fort Gragoata and the Custom-house, and thenceforward almost daily for a fortnight fired occasionally from that position at the Nictheroy batteries, although on the 4th she increased her distance somewhat. That night an armed steamer ran past the forts and got safely to sea. Villegaignon in the first week of the month was almost daily shelled by the Government forts.

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44. On December 9th Admiral da Gama took upon himself the local command, and issued a manifesto. He had already fortified Cobras Island, and it was at once clear that his scheme of action was, by means of fire from that point, to prevent merchant-vessels from unloading at the Arsenal da Marina and the quays in its neighbourhood, and so to put a new kind of pressure upon the government. In the meantime he did his best to deter Brazilian boatmen and labourers from venturing upon the water, by letting it be known that if he caught them he would send them to work the guns in Fort Villegaignon. This measure materially helped his main object, which was the stoppage of trade.

45. The government, upon its side, endeavoured to checkmate the new rebel plans. On December 9th it ordered all merchant-vessels to move from their anchorages near Cobras, Enchadas, and Santa Barbara Islands, and completed its preparations for attacking those places from the mainland. Tons of sandbags and steel plates had been put into position to defend the landing-place near the Arsenal da Marina; and quick-firing guns were trained upon Cobras Island, which was also commanded by batteries on Santa Teresa and other hills. Six hundred men formed the garrison of the island, and the *Guanabara* lay near it. Late in the afternoon the *Jupiter* and other transports communicated with the *Almirante Tamandare*, and then, approaching Cobras, anchored in position to support the island as well as each other. At 10.30 p.m. the government attack developed, and small-arm firing began between Cobras Island and the city front, until at length the action grew somewhat fierce, and was shared in by the guns of the transports, and the quick-firing guns on Cobras Island and in the city. For more than an hour the affair continued. Then at 11.45 p.m. the *Almirante Tamandare* also joined it, but only with a single 6-inch shell. Soon afterwards, the government forces having been repulsed, all became still.

46. At that period the neutral ships in harbour were:

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British, *Sirius*, *Beagle*, and *Racer* ; United States, *Newark*, *Charleston*, and *Detroit* ; Italian, *Etna*, *Giovanni Bausan*, and *Dogali* ; Portuguese, *Mindello* and *Affonso de Albuquerque* ; French, *Magon* ; Dutch, *De Ruijter* ; Austrian, *Zrinyé* ; and Spanish, *Cristobal Colon*.

VI. THE GOVERNMENT TAKES THE OFFENSIVE

47. A few days later the rebels began daily to send armed tugs, supported by one or more transports, to engage the government forces along the city front. An anchorage near Ilha do Governador, out of reach of the fire of any of the forts, served as base for these movements. At the anchorage lay the *Almirante Tamandare*, *Jupiter*, four transports, and a couple of torpedo-boats ; while near Cobras Island, as it were flanking the government position, lay the *Trojano* and *Guanabara*. The point most harried was the Arsenal da Marina. The small-arm firing from Cobras Island could not be kept down by shells from Fort Gragoata on the other side of the bay, and caused considerable inconvenience.

48. With the object, therefore, of checking these proceedings and of gaining command of the rebels' secure base, the government leaders determined to attempt the capture of Ilha do Governador, which was utilised by the insurgents in more ways than one, but which they were never strong enough to occupy properly.

49. General Silva Telles, with about 300 men, was ordered to make the effort. The rebels, forewarned of, or foreseeing, what was in preparation, landed 200 men and four field-pieces ; and when, on December 14th, the attacking force waded across from the mainland, it was hotly received by fire from these and from the ships, the general himself being mortally wounded and dying on December 22nd. But, discovering that he was not able to hold the island as well as to keep his vessels in fighting condition, Admiral da Gama presently re-embarked his men and guns,

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and the island thenceforth passed into the hands of the government, which at once began to erect batteries upon it, with a view to harassing the squadron.

50. A transport shelled the new works on the afternoon of December 17th, but in vain. Almost immediately afterwards the government troops seized the island of Bom Jesus, where the insurgents kept their supplies of fresh water. The latter established a new water depôt on Paqueta Island, in the northern part of the bay. All this rendered the city front less liable to suffer from gun-fire, and, at the same time, rendered the rebel ships less secure. In consequence they betrayed a tendency to shelter themselves from the shells of the batteries behind the foreign merchantmen at anchor to the south of Ilha do Governador, until the government deprived them of this resource by ordering the merchantmen to move.

51. At 4.30 p.m. on December 21st Fort Gragoata and the batteries at Nictheroy and the Armação opened a heavy fire upon the *Almirante Tamandare* and *Jupiter*, while the battery at Ponta d'Areia, shelling the rebel position on Mocangué Island, supported an advance of government troops destined for the capture of that place. The guns of the *Almirante Tamandare*, directed upon the Armação, made very good shooting, ballistite in 17-lb. charges being employed in the 6-inch quick-firers, but all guns being used. On both sides the firing was rapid. In two hours the island was in possession of the Brazilian troops. The *Almirante Tamandare* was several times hit, but not seriously damaged.

52. This government success was followed up by the capture of the islands of Conceição and Engenho, the plan being to surround the rebels in such a manner as to render their ships unable to place themselves out of reach of gun-fire. Fresh batteries were quickly established at all appropriate points, and especially at Nictheroy, the Armação, and Ilha do Governador.

53. The rebels retaliated by daily bombarding Mocangué ; but their situation tended to become gradually more and

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more unfavourable, for the reinforcements which had been promised to Admiral da Gama by Admiral de Mello, who had remained in the south, preparing to attack Santos and other places, showed no signs of arriving, and there were no other means of replacing the insurgent losses. The explanation was that there were at the time two, if not more, insurrectionary movements in Brazil, and that each regarded the other with some jealousy ; so that the party represented by de Mello and da Gama did not receive from the shore the support which it had expected.

54. On December 24th Admiral da Gama asked, in vain, for recognition as a belligerent ; and about the same time, declaring that the heights of Rio de Janeiro were fortified, he informed the foreign naval commanders that, at the first shot from those points, his vessels would reply with heavy artillery. He was told in answer that the facts did not justify the threat of bombardment, and that the foreign naval officers would observe with him the same attitude as they had held towards Admiral de Mello. The year 1893 closed with a lively bombardment of Enchadas Island by Fort São João, the pretext being that the hospital there was used as a military workshop. The fire obliged a hospital-ship, and a steamer full of political refugees and members of the families of rebels, to change their anchorage.

VII. THE REBELLION AT BAY

55. The year 1894 opened peacefully, there being little or no firing on January 1st, and that little being chiefly restricted to the neighbourhood of Vianna Island, which was in the hands of the rebels ; but the most desperate part of the struggle was about to begin. The government occupation of the island of Engenho was persisted in mainly with a view to cutting off the communication of the rebels with the water and provision depôts on Paqueta Island ; and for that purpose a 70-pounder Whitworth and

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a 3·5-inch Krupp field-gun had been mounted there, so as to prevent the steam-launches of the ships from passing to and fro. The garrison consisted of 7 officers, 120 soldiers and seamen, and 25 civilians in government employment. At 10 a.m. on January 3rd the *Trajano*, *Jupiter*, and two armed launches began to shell Engenho, and continued doing so until 7 p.m., the guns on the island replying. At 7 p.m. a force of 200 men from the rebel ships was landed to storm the position. The rifle-fire from the garrison at first checked the advance; but the rebel officers led the men with great courage up the slopes, and in ten minutes the guns were captured, those of the soldiers who did not flee to the woods being made prisoners. The government lost 13 killed and 5 (who were removed to the hospital on Enchadas Island) wounded, besides 5 officers and 63 other combatants made prisoners. The civilians, as well as a large quantity of ammunition and stores, were taken on board the ships. Although the defenders fought behind cover, the insurgents lost but 2 killed and 5 wounded.

56. At about the same period a government attempt to seize Boqueirão Island, where the rebels kept a large supply of ammunition, was defeated; but Admiral da Gama, perceiving that the magazine was not safe, took off as much powder as possible, and blew up the remainder, which consisted chiefly of rifle-cartridges suitable only for the weapons in the hands of the government troops. He, however, still kept a garrison of 60 men on the island. An attempt on January 4th to recapture Engenho was checked by the fire of the *Jupiter* and some launches. These successes, though of no great importance, reinvigorated the insurgents, who, on the 9th, succeeded in reoccupying Conceição Island with 250 marines. On the night of the 10th they opened a heavy but fruitless fire on Mocangué. In the meantime the mounting of heavy guns on the heights in and behind Rio made so much progress that the foreign naval officers felt that they would no longer be justified in interfering to prevent a rebel bombardment of the city.

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VIII. FOREIGN COMPLICATIONS COURTED

57. Up to the time when Admiral de Mello left the bay on December 1st, 1893, no very serious interruption of commerce occurred; but the assumption of the direction of operations by Admiral da Gama saw the commencement of a very general effort on the part of the insurgents to stop the passage of merchandise to the Custom-house. Yet still several American, German, and other neutral ships went to the docks and discharged or loaded there without meeting with any interference. Difficulties, however, arose soon after the second week of the new year, and, as will be seen presently, led to results which exercised no small influence upon the prospects of the insurgents.

58. On January 12th, in the early morning, the *Aquidaban* returned to the bay, steaming in ere the forts were fairly alarmed, and running past them without being touched. Admiral de Mello was not on board. He had shifted his flag to the *Republica*, and remained in the south. When the ironclad was three miles up the harbour, two projectiles from a gun at the Armação hit her, one passing through the wardroom, and the other through the forward part of the superstructure, the general result being that two men were wounded. The arrival of this reinforcement appears to have decided the insurgents to attempt the recapture of Mocangué.

59. At 4 a.m. on January 16th the *Aquidaban* took up a position off the northern end of that island, and with her 5·7-inch and machine guns soon drove the government troops from their entrenchments. At the same time she landed a party in three launches, and, after three hours of stubborn fighting, the island was captured, three Krupp field-guns, a 70-pounder Whitworth, 200 rifles, and a quantity of ammunition falling to the victors. The guns were at once turned upon Ponta d'Areia and the Armação.

60. At about the same date Admiral da Gama, having learnt that the government contemplated an attack on

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Conceição Island, strengthened the garrison there by 250 marines, the result being that, when the attack took place, it was easily repulsed, the rebel loss being only 20, while the government loss was about 100. A gun on this island, and another on the highest point of Mocangué, commanded the Petropolis railway, the Nictheroy gas-works, and other points of importance, so that the mastery of the two positions was well worth fighting for. On January 25th the rebels retook the island of Bom Jesus.

61. From that time forward the *Aquidaban* and the *Almirante Tamandare* usually lay near Engenho Island; the *Trojano*, *Guanabara*, and *Liberdade* (flag) off Saude Point, to the westward of Enchadas Island; and the transports in the vicinity of the foreign merchantmen. Till nearly the end of January armed tugs or launches steamed in the early morning or towards dusk along the city front, firing apparently in a very haphazard manner towards the shore, and rendering it unsafe for merchant-vessels to lie at the docks. At the same time, and, indeed, until the end of the revolt in the bay, the batteries on Ilha do Governador, at Ponta d'Areia, and at the Armação fired daily at the *Aquidaban* and *Almirante Tamandare*, whenever the latter were near Engenho; Forts Santa Cruz, São João, Lage, Gragoata, and São João Baptista, with the Nictheroy and Armação batteries, shelled Fort Villegaignon or Cobras Island; and frequent fusillades occurred both by night and by day between the Armação, Ponta d'Areia, Morro Areia, and São Lourenço on the one side, and the armed tugs and the coaling parties at Conceição, Coal, and Vianna Islands on the other.

62. Fort Villegaignon was in ruins on the faces towards Forts Santa Cruz, Lage, São João, and Gragoata, though six or more guns remained serviceable there. On the city side the guns were undisturbed. On Cobras Island there were a few B.L. guns—probably 6-inch ones—and several quick-firers; and to them in February were added those of the *Guanabara*. Enchadas Island, where there was a

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hospital, was given up to the sick and wounded. Paqueta Island became a place of refuge as well as a supply depôt, and Mocangué, Velha, Coal, Vianna, and Conceição Islands were held by the insurgents, the last three because of the large amount of coal stored there.

IX. THE GOVERNMENT NAVY

63. It will be convenient to say something here of the squadron which, during this period, was being assembled and organised at Pernambuco by the Brazilian government for an attack upon the insurgents in Rio Harbour and to the southward. This consisted of the *Paranahyba*, *San Salvador*, *Gustavo Sampaio*, five Schichau torpedo-boats,* and the *Moxoto*, *Piratiny*,† *Nictheroy*, *Andrada*, *Poty*, and *Inhanduay*, some particulars of which will be found in the table on pp. 195, 196.

64. A more detailed description of several of the vessels may be of interest, owing to the ingenuity with which they were adapted to the purpose in view.

65. The *Nictheroy* (ex *El Cid*) was a steel screw steamer, built by the Newport News Shipbuilding Company for the Morgan Line in 1893. She was 389 feet long between perpendiculars, by 48 feet broad, and, at a displacement of 7,080 tons, drew 22 feet of water. She had triple expansion engines, a speed of 17 knots, and a coal capacity of 3,500 tons, a quantity sufficient for five months' cruising. On October 26th, 1893, she returned to New York from a commercial voyage, and, having been unloaded, was put into dry dock. On November 18th she dropped down the bay practically complete; and on the morning of November 20th she sailed. During that short time extensive

* Purchased at Elbing through the intermediary of a British firm, and sent out by Messrs. Schichau under steam by way of Madeira to Pernambuco, where they arrived in January, 1894.

† Purchased, together with her submarine gun and six projectiles for it, in October, 1893. She was towed to Brazil from New York by the tug *Santuit*, and carried on her deck the *Moxoto*.

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structural alterations were made, gun-mountings were put in and bolted down, guns were mounted, torpedo-tubes were placed and connected with steam- and exhaust-pipes, magazines were established and fitted, and ammunition and explosives were taken on board and stored. The 15-inch pneumatic gun was mounted in the bows, 3 feet to star-board of the middle line of the ship, and was trainable right ahead and on both bows. The accumulators for it were placed directly under the gun in the lower hold. The air-compressor was mounted on the between-deck, abaft the engine-room bulkhead ; and the projectiles were stored in the lower hold, a hoist being let down to the magazine containing them. Of projectiles for this gun there were carried one of full calibre (loaded), seven of 10-inch sub-calibre (loaded), and three of 10-inch sub-calibre (unloaded). The four torpedo-tubes, of the Hotchkiss pattern, for Howell torpedoes, were fitted, two on each broadside, on the main-deck. For these ten Howell torpedoes, complete with practice-heads, were stowed on the main-deck, the corresponding war-heads being in the magazines below. The 4.7 Q.F. gun was mounted abaft the after deck-house, and 50 rounds were supplied for it. The two 33-pounder Q.F. guns were mounted forward on the bluff of the bow on each side ; and for each of them 100 rounds were provided. The eight 6-pounders were distributed four on each broadside, six being on the gun-deck and two on the spar-deck. For these guns 1,419 rounds in all (besides saluting-rounds) were put on board. The nine 1-pounders were arranged, two on the after corners of the forward deck-house, two on the forward corners of the midships deck-house, four on the corners of the after deck-house, and one on the port side of the spar-deck. For these guns there were 1,140 rounds. All the Q.F. guns were of the Hotchkiss type. The machine-guns, two Hotchkiss 1-pounder revolving-cannon, were placed on the pilot-house. A Halpine storage-battery torpedo was stowed on deck, where, also, the small torpedo-boats *Poty* and *Inhandway* were carried.

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66. The former (ex *Javelin*) had been a yacht, 126 feet long by 12 feet broad, with a draft of about 3 feet, and a speed of 18 knots. She was altered, and fitted with a conning-tower and a central-pivot Howell torpedo-tube. The latter (ex *Feiseen*) had been a canoe-shaped yacht 90 feet long by 10 feet broad, with a draft of 3 feet. She was fitted like the *Poty*. Thus the *Nichteroy* was converted into a warship of not inconsiderable offensive power.

67. The *Andrada* (ex *America*, ex *Britannia*) had been an iron Bergen-built British passenger-steamer, 260 feet long, 34 feet wide, and having an extreme draft of 19 feet. Her natural-draft speed was 16 knots, but this could be increased by forced draught to at least 17. She could carry 600 tons of coal. The forward and aft deck-houses were removed; the engines and steering-gear were protected by 2-inch armour; and there were mounted in her two 4·7-inch Elswick Q.F. guns, one on each bluff of the bows, but not quite abreast of one another, and behind shields. Two 14-pounder Hotchkiss Q.F. guns were similarly mounted aft. Of the six 6-pounder Hotchkiss Q.F. guns, four were placed on the main deck-house, two on each side, and two, one on each side, below it on the main-deck, all behind shields. Two of the 6-pounder Hotchkiss Q.F. guns were put one on each beam just forward of amidships, and four at the corners of the promenade-deck. These also had shields. The four Howell torpedo-tubes were disposed two forward and one on each broadside. Each tube carried a torpedo in it. Four other torpedoes were stowed in boxes, two forward near the bow tubes, and two on the main-deck near the broadside tubes. Two magazines were formed, one forward and the other aft. In each four torpedo war-heads were stowed. The other ammunition carried was: 4·7-inch, 200 rounds; 14-pounder, 250 rounds; 6-pounder, 1,332 rounds; and 1-pounder, 1,400 rounds. A Sims-Edison dirigible torpedo was carried on deck abaft the foremast. The vessel arrived at New York on November 6th, 1893, and, having been altered and fitted, dropped down the bay

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on the 24th, and sailed on the 25th. The rapid adaptation of these merchantmen afforded a suggestive illustration of what may be done towards the improvisation of some sort of a navy by a power with plenty of resources at its command. At the same time, it cannot be contended that these ships would have been formidable to regular men-of-war. Efficient warships cannot be improvised.

68. In the south the rebels had made very considerable progress, having occupied Curitiba and captured Paranagua, the garrison of which ultimately joined them. The *Urano* lay at Paranagua, to afford some sort of protection to the harbour. But at Rio the cause undoubtedly received a severe attack in consequence of the action which was forced upon the United States' commander-in-chief.

X. FOREIGN PRESSURE EXERTED

69. It has already been said that part of Admiral da Gama's policy was to prevent as far as possible communication between merchantmen, desiring to load or unload, and the capital. The admiral, however, did nothing to call for foreign interference, other than of a merely remonstrative character, until January 26th. On that day an insurgent battery on Cobras Island fired at an American vessel that was heading for the docks. Again, on the 27th, two other American vessels were fired on by the same battery and by the *Trajano*.

70. Rear-Admiral Andrew E. K. Benham,* commanding the South Atlantic station, had with him at the time in Rio Harbour, in addition to the *Newark*, Captain Silas Terry, *Charleston*, Captain H. F. Picking, and *Detroit*, Commander W. H. Brownson, the *San Francisco* (flag), Captain J. C. Watson, and *New York*, Captain J. W. Philip; and he at once called the attention of Admiral da Gama to what had

* Of New York: entered the U.S. Navy in 1847; master, 1855; lieutenant, 1855; lieutenant-commander, 1862; commander, 1866; captain, 1875; commodore, 1885; rear-admiral, 1890.

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happened, and requested that orders should be given to prevent the recurrence of similar acts. In reply it was declared that only blank cartridges had been used, and they merely as a warning to the ships not to approach a position of danger. But, as the master of one of the vessels asserted that his men had been driven from the wheel by bullets flying over their heads, and that his rigging had been cut, Rear-Admiral Benham demanded that peremptory orders should be issued forbidding firing of any sort at American vessels, and that the fact of the promulgation of such orders should be communicated to him by Admiral da Gama. He also warned the latter that, if necessary, American ships would be protected by force. Yet Admiral da Gama insisted upon his right to fire, in order to indicate to all or any vessels that they were approaching limits which he chose to consider, or to render, dangerous to them.

71. In these circumstances Rear-Admiral Benham, who had been informed by the masters of the American ships *Amy*, *Good-News*, and *Julia Rollins* that they purposed to go alongside the wharves near Saude Point on January 29th, communicated to Admiral da Gama the nature of the intended movement, and added that, if the vessels were fired on, they would be protected.

72. On the evening of the 28th, in consequence, the *New York* and *Detroit* cleared for action, and at dawn on the following morning the *San Francisco*, *Charleston*, and *Newark* did likewise. It was ordered that, if hostilities became inevitable, the *New York* and *Newark* should attack the *Aquidaban*, *Almirante Tamandare*, and transports near Engenho Island; that the *Detroit* and *Charleston* should engage the *Trajano*, *Guanabara*, *Liberdade*, and their tugs and launches; and that the *San Francisco* should silence the works on Cobras Island.

73. At 6 a.m. on January 29th the United States' squadron was under way. The *Detroit*, while proceeding to her assigned station, slowed down for twenty minutes on account of a lively exchange of small-arm and quick-firing gun

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fire that was proceeding between three insurgent launches, and the batteries of the Saude water-front. She then steamed midway between Cobras and Enchadas Islands, and approached the *Trajano*, *Guanabara*, and *Liberdade*, which lay moored to buoys a little northward and westward of Enchadas Island. Two armed tugs, three launches, and a torpedo-boat were within easy supporting distance. As the *Detroit* neared her, the *Trajano* fired a musket-shot over a small boat that was carrying a warping-line from the *Amy* to a wharf about 100 yards distant. The *Detroit* answered with a shell from a 6-pounder Q.F. gun. The range was only about 60 yards, and the projectile, as intended, struck the water 6 feet forward of the rebel's stem. As the *Detroit* passed the *Trajano's* starboard beam, the American captain hailed, and declared that he would return her shot for shot, and, if necessary, would sink her; whereupon the Brazilian ship, by way of protest, fired a blank charge to leeward.

74. Meanwhile, the *Detroit* passed slowly ahead, and, when off the starboard beam of the *Guanabara*, Commander Brownson hailed that vessel, cautioning her to make no mistakes and to fire no accidental shots. The warping-boat had turned back towards the *Amy*, which was directed to proceed to the wharf, if she desired to do so. Her master replied that he would be fired upon, but was recommended to go on, and assured that he would be protected. The *Detroit* then rounded the stern of the *Guanabara*, which at the same instant fired a blank charge in the direction of the *Amy*. Recognising the formal nature of this action, Commander Brownson contented himself with ordering a rifle-shot to be returned. This struck the *Guanabara* above her rudder-post. It was 7.36 a.m. when the *Detroit* anchored, so as to be able to rake both the *Guanabara* and the *Trajano*.

75. Messages having been exchanged with Admiral da Gama, whose flag was flying in the *Liberdade*, that officer summoned a conference of his captains, and at 11.17 a.m.

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acceeded to the demands of Rear-Admiral Benham, whereupon the *Detroit*, which, pending the decision, had remained at quarters, rejoined the United States' squadron, and re-anchored. Thenceforward the only restrictions to the free loading and discharge of neutral vessels of all nationalities were those imposed by the actual line of fire of the contending parties.

76. At that period the partisans of Admiral de Mello were busy not only at Rio and in the south, but also at Bahia and Pernambuco, where the government ships were preparing for action. Insurgent emissaries seem to have been in every one of these craft, and to have seized all opportunities for surreptitiously damaging the machinery, and even for imperilling the existence of the vessels. A certain amount of harm was done in this way from time to time, but it was limited by the watchfulness of 150 Brazilian military cadets, who were distributed throughout the ships, and who lent effective support to the Americans serving in them. On shore at Rio also the rebels endeavoured to make use of treachery, and managed to tamper with some of the National Guard. Indeed, the situation naturally bred much distrust and suspicion. It was found advisable to arrest and supersede the commanders of the government men-of-war *Bahia* and *Tiradentes*, and the commandant of Fort Santa Cruz.

XI. THE BATTLE OF THE ARMAÇÃO

77. At daylight on February 4th the batteries on Ilha do Governador opened fire on the *Aquidaban* and the *Almirante Tamandare*; and those on Ponta d'Areia and at Nictheroy, on the armed transports in that part of the bay. Later the Armação began to bombard Cobras Island. At 6.45 a.m. the *Jupiter* and *Pereira da Cunha* left their anchorage in the eastern part of the bay, and, on getting within range, were fired at by the Governador and Armação batteries. A shell from one of the Ilha do Governador guns struck the

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Pereira da Cunha on the starboard quarter, and caused that vessel to anchor for repairs, pending which she lowered collision-mats over the shot-hole. The *Jupiter* continued on her course towards the city, and, upon reaching the *Trajano*, *Guamabara*, and *Liberdade*, anchored near them.

78. At 9.40 a.m. the *Aquidaban* shifted her berth from off Engenho Island to off Saude Point, and, while in motion, was fired at by two batteries on Ilha do Governador, one on Ponto d'Areia and one at the Armação. Twelve projectiles were thrown, but all missed their mark, although several fell dangerously near to the foreign shipping, one striking the water half a mile short of the *Aquidaban*, much to the left, and within fifty yards of the bow of the *New York*. Another transport and several armed launches subsequently joined the rebel ships off Enchadas Island. The object of all these manoeuvres was a landing, to be undertaken on the 5th, Admiral da Gama having received assurances of co-operation from two regiments of National Guards which had promised to join him. But the conspiracy having been discovered, the government seized the ringleaders in time, and, as there was no rising on shore, the landing was not attempted.

79. On February 9th the insurgents in Rio Harbour fell short, only by a very little, of winning a considerable success. At 3.30 a.m. on that day a number of launches containing 500 Melloists left Conceição Island. The party landed undiscovered at the Armação, and then, supported by fire from the launches, and from the *Aquidaban*, *Liberdade*, and *Jupiter*, drove back the government troops, and by 5.30 a.m. had captured the battery there, killed or wounded 56 of the defenders, and taken prisoners 45 more. At about that time, however, the government troops, reinforced by 1,000 fresh infantry, advanced once more under cover of the fire of machine-guns and riflemen on Caja Island, opposite Punta d'Areia. Da Gama called up 100 additional seamen from Conceição, and sent the *Liberdade* and some armed launches close inshore, between Mocangué

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and the mainland. With these supports he held his own for a time, though the fighting was furious.

80. The squadron, aided by Villegaignon and Cobras, fired heavily into the government works ; and at about 8 a.m. Fort Gragoata received some damage from a 9·2-inch shell from the *Aquidaban*, and from a couple of 6-inch shells from the *Almirante Tamandare*. The engagement, known as the battle of the Armação, was indeed a general one. Between 9 and 10 a.m. Fort Gragoata, besides being continuously bombarded from Villegaignon and Cobras, was also being fired into from the Armação battery, which was still held by the Melloists ; Fort Gragoata was at hot work with the *Aquidaban* ; and Villegaignon was subjected to the combined fire of Santa Cruz, São João, and Lage ; while the *Liberdade* and four armed tugs quitted Mocangué channel, and directed their efforts against the forces along the water-front at Punta d'Areia. By 10 a.m. the *Aquidaban*, having silenced Fort Gragoata, turned her attention to the São João battery ; but she soon quitted that opponent, and steamed towards Villegaignon.

81. It was at about that time that da Gama appeared to recognise that his enemy was too strong for him, and that he began to withdraw his people. Having lost 100 killed and wounded, and having caused a loss twice as great to the government forces, he spiked all the guns in the Armação battery, and by 11 a.m. took off his last man. The *Liberdade* and tugs returned to their old anchorage off Saude Point ; the *Aquidaban* resumed her station off Engenho Island ; and the *Almirante Tamandare* remained where she had lain during the attack, namely, half a mile west of Mocangué Island.

82. In this hot affair da Gama, who led the rebels was wounded in three places. So heavy was the loss in the *Liberdade* that a newspaper correspondent who was on board her, and who was himself hit in the throat, took the gun-boat out of action. The result was most dispiriting to the insurgents, who had already for some time been suffering

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from shortness of supplies, as well as from depression due to Admiral de Mello's failure to make progress in the south.

83. In the afternoon of February 12th the *Almirante Tamandare* was driven from her position near Mocangué Island by fire which was opened on her by Fort São João. Twelve shells were thrown at her, and three struck her, one passing completely through her. She moved northwards to the westward of Vianna Island, where she lay about $2\frac{1}{2}$ miles distant from the fort. Nevertheless, at 9 a.m. on the 12th, another shell from São João burst on her forecastle *; and at 4.56 in the afternoon a gun on Ilha do Governador also opened on her, the second shot striking her on the starboard bow, and three other projectiles hulling her near the water-line. Thereupon she moved up to an anchorage north of Engenho Island. On the same day the *Aquidaban* shifted from off Engenho Island to near Saude Point, where for the following eight days she was busy coaling, the coal coming to her from Vianna and Conceição. On the 19th she was struck by a shell from a battery on Punta d'Areia.

XII. FINAL DEPARTURE OF THE "AQUIDABAN" FROM RIO

84. The next move of Admiral da Gama was apparently dictated by the knowledge that the fleet, chiefly an improvised one, which the government had gradually collected was approaching, and that a serious effort ought to be made to disperse it. On the 18th the Government armed cruiser *Nichteroy* had arrived off the mouth of the harbour, and had landed 300 men outside, without being interfered with. It had been intended—and the intention was probably

* Three times during the course of operations did shells, bursting on the deck of the *Almirante Tamandare*, explode cartridges which had been placed there ready for use. The fact should be noted. The presence of cartridges on the deck of a ship in action constitutes a real danger to her people, if not indeed to herself. As few as possible at a time, therefore, should be so exposed.

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known to da Gama—that she should afterwards go in, and try the effect of her dynamite-gun on Fort Villegaignon; and no doubt she would have done so, had not the weapon been found to be out of order, whether in consequence of inherent weakness or of treachery is not known. She returned to Bahia, whence she had come.

85. On the other hand, da Gama's move may have been due merely to a desire to bring up from the south reinforcements of men and supplies for his much-depleted ships. I am not aware that his exact object was ever made public. What it certainly should have been was promptly to counteract the effect of the *Nictheroy's* visit—a visit which had given the Peixotists good reason for supposing that the sea was at length open to them—and, by inflicting some crushing blow upon the government ships outside and up and down the coast, to demonstrate that he had still complete command of the water, although for the time he was powerless on shore. With the *Aquidaban* full of coal, and, so far as can be ascertained, seaworthy and battleworthy, if not exceptionally well found in every respect, he might have emulated the example of the Peruvian chiefs, who, in 1879, sent out the *Huascar*, a far less efficient vessel, on her famous cruise under Grau. If his orders were, indeed, to this effect, they were not obeyed. What is known is that he directed the *Aquidaban* to leave harbour for the second time on the morning of February 21st, and that on that day her consort, the *Republica*, from the south, was waiting outside to join her. The two ships, acting conjointly, might have done much. They missed a most magnificent opportunity by not acting upon the maxim that in naval warfare the first object to be sought is the destruction or paralysation of the enemy's floating force.

86. At 3.45 a.m. on the 21st a rocket from Fort Santa Cruz called attention to the fact that the *Aquidaban* was steaming out; and almost instantly afterwards Forts Santa Cruz, Lage, and São João, with the Sugar Loaf batteries, turned their guns on the ironclad, which had been detected

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by and was kept under the beams of the searchlights of São João and Gloria Hill. The *Aquidaban* made her second exit without receiving any noticeable damage, although she was twice struck. Outside she picked up the *Republica*, and later both vessels were seen standing to the eastward.

XIII. THE COLLAPSE IN RIO HARBOUR

87. From that day forward until March 10th affairs in the Bay of Rio were as unimportant as they were uninteresting, except on February 23rd, when the insurgent steamer *Venus* (ex *Pereira da Cunha*), which lay at anchor off Tavares Island, was struck by a shell believed to have been thrown from a battery near Punta Velha, a promontory eastward of Engenho Island, though some accounts make it to have come from Punta Madame. It penetrated her side, burst in some powder which was stored between decks, and caused the total destruction of the ship. She appeared to be broken in two. The forward end sank; the after end, with the funnel and mizen-mast, remained awash. All her officers and crew, numbering thirty, were either blown up or drowned. The catastrophe induced the Melloists to shift two other transports which lay near the scene to an anchorage off Paqueta Island.

88. At that time the insurgents in the south, headed by de Mello, held control of the whole of the little state of Parana, except the town of Lapa, but failed further to increase their sphere of influence. Their provisional government at Desterro had collapsed, and they were endeavouring to organise a new one, with its seat at Curitiba, in Parana. Their cause there was weakened by the defection of about 800 men whom they could ill spare, and by the defeat of General David, who lost sixty killed and wounded, and a quantity of arms and ammunition. In addition the insurgent generals Saraiva, Tavares, Salgado, and Laurentino Pinto were on strained terms. But, in the states of Rio Grande do Sul and Santa Catharina, as well as in

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Parana, the rebels held many positions ; and at Desterro they still possessed a naval base. De Mello ultimately became chief of the government at Curitiba.

89. On March 1st the Brazilian elections, which, outside the districts occupied by the insurgents, passed off quietly, resulted in the choice of two civilians of character, Dr. Prudente de Moraes and Dr. M. V. Pereira, as President and Vice-President respectively. On the same day such naval force as the government had succeeded in collecting at Bahia left that place for Rio de Janeiro. In the interim firing went on in the bay, but little damage was done on either side.

90. On March 10th the government fleet anchored in Praia de São João, on the westward side of the mouth of the Bay of Rio ; and on the 11th word was sent to the foreign representatives that, at the expiration of forty-eight hours, a general fire would be opened upon the rebels from all the forts and batteries. The government fleet in Praia de São João consisted of the *Nictheroy*, *Andrada*, *Paranahyba*, *Gustavo Sampaio* (ex *Aurora*), *San Salvador*, and five 130-ton torpedo-boats. The general expectation was that the insurgents would not only fight the government ships, but also bombard the city. The *Nictheroy* and *Gustavo Sampaio* lay ready for action under the guns of Fort São João and the Sugar Loaf batteries ; the other government vessels were prepared to resist interference from seaward, in case of the sudden reappearance of the *Aquidaban* and *Republica*.

91. It is difficult to estimate what might have been da Gama's chances, had he fought as was expected. The state of his magazines, and of the *moral* of his long-tried and not very numerous followers, is not sufficiently known. Probably, however, he was wise in deciding that the hour had come for him to give up the struggle in Rio Harbour. No doubt he realised that, even if the *Nictheroy's* much-talked of dynamite-gun failed, and if fortunate shots from his own guns disabled or sank the bigger vessels of the government

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squadron, his few remaining ships must sooner or later fall a prey to the excellent first-class torpedo-boats which had crossed the Atlantic to the assistance of President Peixoto, and which could easily keep out of his way until the darkness of night should enable them to approach him unawares. The force at his disposal was too small, and the craft at his disposal were too cumbersome, to hold out any hopes that, by assuming the offensive promptly, he could cut out his enemies ere they could attack him. Nor were his ships in a condition to try a dash past the foe, and to attempt to rejoin their consorts in the south. Moreover, yellow fever was raging in the bay. Upon the whole, it is not astonishing that da Gama abstained from fighting. Nevertheless, the Brazilians on shore were almost all fully persuaded that, like Samson, he would die desperately; and the inhabitants of Rio fled to the suburbs to the number of 100,000, being conveyed thither by railway free of cost, and many camping there, and being supplied with food at the public charges.

92. But although ample excuse can be found for the action of da Gama, and of the civilians in Rio, it is not equally easy to understand the government policy, which, while the *Aquidaban*, *Republica*, *Meteoro*, *Urano*, *Esperança*, *Iris*, two torpedo-boats, and several transports were still at large under the insurgent flag, and, so far as could be known, had command of the sea, brought its own weak and improvised fleet from the north, and, instead of sending it first against the Melloist squadron, called it at once to Rio, where it was liable not only to come into conflict with the batteries of Villegaignon and Cobras, as well as with the guns of the rebel ships in harbour, but also to be attacked at any moment from the rear by an ironclad battleship and a protected and well-armed cruiser, supported by torpedo-craft. It is hard to resist the conclusion that, if the insurgents in the bay had had any fight left in them (and the government clearly believed that they had), and if the insurgents outside the bay had co-operated as they could

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have co-operated, things might have gone hardly with the government fleet even as late as the middle of March.

93. On the 11th da Gama asked for an amnesty for his friends and himself ; and at 10 p.m. that night the commander of the Portuguese warship *Mindello* submitted to the president of Brazil the terms on which the admiral offered to capitulate. It was suggested that the officers of the insurgent vessels in harbour should lay down their arms, and, under Portuguese guarantee, should leave the country together with their adherents. They would return all prisoners who might not elect to share the fate of the rebels ; and, on the other hand, the lives of those who, in subordinate capacities, had fought against the government were to be spared. That night da Gama himself asked for and received promise of asylum on board the *Mindello*.

94. On the 12th little happened beyond the occasional firing of a shot from the Armação in the direction of Cobras Island, and, in the evening, a brief shelling of Villegaignon by Fort Santa Cruz.

95. On the morning of the 13th it became generally known that the government had rejected da Gama's terms. An eventful day opened with some small-arm firing at Mocangué, Vianna, and Engenho Islands, and with two shots from the batteries of the Gobernador and Punta d'Areia at passing insurgent launches, and at a transport which had moved from her anchorage off Paqueta Island. The passage of tugs and small craft between Cobras and Vianna Islands, and between Cobras and Enchadas Islands, and the Portuguese ship *Mindello* indicated to those who were behind the scenes that a collapse of the rebel cause was imminent ; and it was perhaps to hasten the result that the Armação and Punta d'Areia guns again shelled Cobras Island, causing a conflagration there, and that at noon Santa Cruz, Lage, and São João began a brief but brisk bombardment of Villegaignon, which replied. By 12.12 p.m. all was once more quiet. At 3 p.m., however, Santa Cruz, Lage, and São João, joined by the guns on the Sugar

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Loaf heights, and those at Morro do Castello, Morro da Saude, Curvello, São Bento, and on the city front, reopened furiously upon Villegaignon, Cobras Island, the *Liberdade*, the *Almirante Tamandare*, and everything over which the rebel flag flew; and presently the Armação and Punta d'Areia guns also took part. When, at about 3.35 p.m., the heavy fire ceased, a new conflagration had been started on Cobras Island, and Enchadas Island had apparently hauled down its flag. Many of the Melloists had disembarked and sought safety on it. During the whole time, and for nearly an hour later, such rebel small craft as still moved about the bay were greeted with showers of projectiles from the shore.

96. At 4.30 p.m. Admiral da Gama, who was wounded in the arm while on the passage, went alongside the *Mindello* in a launch; and almost at the same moment it became known that the numerous rebels who had assembled on Enchadas Island, abandoning their ships and batteries, had surrendered unconditionally. But the government forces do not seem to have been aware how complete the abandonment had been.

97. Forty minutes earlier the government vessels near the mouth of the harbour had got under way; and at 5.30 p.m., after some preliminary evolutions, the object of which was not clear, most of them steamed up the bay in column of line ahead, while every government gun that would bear from the shore opened for the last time on the deserted rebel ships and works. Such of the Melloists as had not surrendered with Enchadas Island had by that hour been received either in the Portuguese warships *Mindello* and *Afonso de Albuquerque*, or in the merchant-steamer *Cidade do Porto*. The government squadron anchored off Villegaignon, where two of the torpedo-boats presently effected a landing. Soon afterwards all the abandoned ships and works were occupied, resistance being offered but in one or two cases, and then by a few desperate men, who could have had no hope of success. That night the triumph of

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the government was celebrated in Rio de Janeiro and Nictheroy with the firing of guns and the display of fireworks; and the rejoicings continued on the 14th.

98. The situation of those rebels who had sought refuge in the Portuguese vessels was still far from assured. When the *Cidade do Porto* attempted to leave the bay with about ninety of them on board, she was stopped by the government, and the fugitives were taken off. But although the surrender of da Gama and his 480 companions in the *Mindello* and *Afonso de Albuquerque* was demanded, those ships were eventually permitted to quit the harbour, the Portuguese officers giving an assurance that the fugitives would be kept at disposal pending the settlement of the diplomatic question. The local prevalence of yellow fever was the ostensible reason for this concession on the part of the government; but the truth probably is that Brazil did not want da Gama and his friends, and would have been troubled to know what to do with them if she had had them. Nevertheless, both then and subsequently—and even to the length of breaking off relations with Portugal—she firmly maintained that the doctrine of asylum could never be admitted in such a case.

99. The refugees were taken to Montevideo. Early in May about 170 of them were transferred to the steamer *Dom Pedro III.*, which had been chartered for the purpose at Buenos Aires, and were convoyed to Lisbon by the *Afonso de Albuquerque*.

XIV. THE COLLAPSE IN THE SOUTH

100. In the meantime Admiral de Mello was at Curitiba, endeavouring to effect a concentration of rebel troops upon the frontier of São Paulo. Off the coast off Santa Catharina he still had the *Aquidaban*, *Republica*, and two torpedo-boats, besides the *Iris*, *Urano*, *Esperança*, *Meteoro*, and some transports. Ashore the generals acting with him had, or claimed to have, at least 8,000 men. His plan seems

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to have been to hold the government troops fast on the frontier of São Paulo to the northward of him, and, by means of a naval expedition, to gain a footing in the state of Rio Grande do Sul, to the southward.

101. De Mello's squadron remained off Desterro, on the island of Santa Catharina, until April 3rd, when, with the rebel president and nearly 2,500 people on board, including troops, part of it, consisting of the *Republica*, *Urano*, *Esperança*, *Iris*, and *Meteoro*, weighed and made for the southward. On the 5th it crossed the bar below the town of Rio Grande, under fire from the government guns on shore. On the 6th it disembarked about 2,000 men, and occupied the government works near the bar, the garrisons from them retiring to trenches which had been thrown up for the protection of the town. On the 7th the little government gunboat *Cananea* had the temerity to fire at the *Republica*, whereupon she was quickly silenced,* and driven off. As she retired she piled up on a sandbank, into which she sank.

102. Generals Salgado and Laurentino Pinto, who commanded the rebel force which had been landed, disagreed as to what could and could not be done. Some ill-planned and half-hearted assaults were made upon the government trenches, which were also distantly bombarded by the squadron. But the defenders received reinforcements on the 10th; and on the 11th, after having lost 350 killed and wounded, the rebels re-embarked and put to sea. On the 13th General Salgado and 1,200 of his officers and men were put ashore in Uruguay at Castillos, a village a few miles south of the Brazilian frontier, and were granted asylum by the Uruguayan government. Salgado appears to have considered that de Mello and Pinto did not support him, and to have sulked in consequence.

103. The failure at Rio Grande, the attitude of Salgado, and lack of coal, ammunition, and provisions, decided

* The range was 3,000 yards; but the *Republica* fired very accurately.

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de Mello, with the *Republica* (flag), *Urano*, *Esperança*, *Iris*, and *Meteoro*, to surrender to the Argentine government. The ships named entered the outer roadstead of Buenos Aires on April 16th, and the arrangements necessary were soon made. De Mello ceased thereupon to have any connection with the revolt.

XV. THE SINKING OF THE "AQUIDABAN"

104. Upon the departure of de Mello and the generals on the futile expedition to Rio Grande, the *Aquidaban* had been left off Santa Catharina. Nearly a month after the collapse of the rebellion in the harbour of Rio de Janeiro, the government squadron went south in search of her. It consisted of the *Andrada* (flag), *Nitheroy*, *Tiradentes*, *Gustavo Sampaio*, *San Salvador*, *Itaipu*, and *Santos*, with the torpedo-boats *Silvado*, *Pedro Ivo*, and *Pedro Afonso*; and on April 14th it anchored in Porto Bello Bay, some miles north of Santa Catharina Island. It was under the orders of Rear-Admiral Gonçalves. While the *Itaipu** was detached alone to look for the ironclad, the *Nitheroy* tried in vain to repair the defective machinery of her pneumatic gun. The *Itaipu* returned and reported that the *Aquidaban* was anchored in the north entrance to Santa Catharina Strait, about one mile from the fortified island of Anhatormirim.

105. On the morning of April 16th the squadron moved down towards the north entrance to Santa Catharina Strait, and at once began a diversion by bombarding Fort Santa Cruz, on Anhatormirim, and Fort São João, on Grossa Point, Santa Catharina Island. The *Gustavo Sampaio* and the three torpedo-boats were ordered to attack the *Aquidaban* under cover of that night's darkness.†

* Some accounts say the *San Salvador*.

† An attack seems to have been planned for the previous night, but to have been abandoned, owing to a belief that the intention was known to the enemy.

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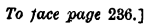
106. When the torpedo flotilla quitted the squadron, it steamed slowly southward along the eastern side of the entrance until it was near Raton Grande Island, where it turned and went north parallel with the western side. The ironclad was still at anchor nearly in the position described by the *Itaipu*. When the boats started the sky was clear, but it had since become elouded, and rain had begun to fall heavily. Though the speed had been very low, the *Pedro Ivo* had found it impossible to keep steam, and, dropping out of the line, had taken up a position near the *Tiradentes*. Assuming that the officers and men were anxious to take part in the attack, the episode illustrates the uselessness of vessels with swift-running engines and unfamiliar boilers, unless there be trained engine-room staffs to run them.

107. The *Aquidaban* was expecting a small steamer from Desterro, and, taking the *Gustavo Sampaio* to be that craft, allowed her to approach, and did not at once fire. On the other hand, it was so dark that, ere the commander of the *Gustavo Sampaio* saw the battleship, he was within 200 yards of her. The *Aquidaban* seems to have had no boats rowing guard, and to have laid down mines which were useless ; yet, in other respects, she was not caught napping. When she realised what the stranger was, she opened fire promptly and accurately, and her people certainly showed much more coolness and self-control than the people on the side of the attack.

108. The ironclad lay with her head to the south. From the *Gustavo Sampaio*, when first seen, she bore on the starboard bow. The gun-vessel therefore turned to starboard in order to launch her bow torpedo from its fixed tube. Owing to some mistake, misapprehension, or flurry, the torpedo was discharged ere the vessel headed in the right direction, and in consequence it missed.

109. Having backed a little to avoid a collision, the *Gustavo Sampaio* turned under the stern of the ironclad, and steamed slowly along the latter's port side, at a

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distance, it is said, of not more than twenty yards. Yet, although she was moving thus gently, and although she must have had plenty of time, she had nearly drawn clear of the *Aquidaban* ere she fired a second torpedo from the after tube on the starboard side. As soon as she perceived that the weapon had reached its billet, the *Gustavo Sampaio* went ahead at full speed to rejoin the government squadron.

110. The torpedo struck the *Aquidaban* about 30 feet abaft the point of the ram on the port side, and, exploding, lifted the ironclad's bows out of the water. The torpedo was a 16-inch Schwartzkopf, with a charge of 125 lbs. of gun-cotton. The ship, which at the time drew 20 feet, was found next day abandoned, in 24 feet of water, with her two forward compartments full.

111. The *Aquidaban* had opened fire before the discharge of the first torpedo, using Nordenfelts, and two of her 5·7-inch breech-loaders. With 1-inch Nordenfelt shells she hit the *Gustavo Sampaio* thirty-five times in the upper works, and three times in the hull. One projectile damaged the distiller; two others struck a Hotchkiss 3-pounder Q.F. gun, one causing the breech-block to jam slightly, and the other deeply denting the wall of the cartridge-chamber. The Hotchkiss gun was not rendered incapable of being fired. Of the *Gustavo Sampaio's* people only one was hit. That the gunboat did not suffer much more severely is attributable to the fact that, owing to her proximity to the ironclad, most of the latter's projectiles passed over her. As soon as she increased her distance, she was concealed by the darkness.

112. The *Pedro Afonso* discharged two torpedoes, both of which miscarried. She could not use her bow tube in consequence of the breaking of a pipe connected with the air-compressor. The *Silvado* was upon the point of discharging a torpedo when her captain discovered that between her and the battleship at the moment was the *Gustavo Sampaio*. While retiring she seems to have fallen in with and fled

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from the small Melloist steamer from Desterro. Neither the *Pedro Affonso* nor the *Silvado* was struck by any projectile.

113. In the course of this affair four torpedoes were actually launched, and two others would have been launched but for accidents. One hit only was scored. The whole story suggests that the people in the attacking boats must have lost their heads. It is the lesson over again of the attack in Caldera Bay on April 9th, 1891. Coolness is a quality which cannot be too steadfastly cultivated by the torpedo-officer who would be successful. Lack of coolness will be apt not only to rob him of his prey, but also to render him dangerous to his friends. It seems probable that, for the purposes of torpedo-boat warfare, certain races possess inherent qualifications which are denied to others. At the same time, no natural qualifications, it should be remembered, can compensate for lack of familiarity with the weapon to be employed. It will not be enough for the ambitious torpedo-boat officer to belong to one of the cooler races. He must also be thoroughly expert in his work, or he may be beaten or circumvented by the officer with fewer natural advantages and more acquired ones. A fifth-form boy translated "Poeta nascitur, non fit," by "The poet, when first born, is not fit to make poetry." The boy did better than he knew. Similarly, the torpedo-boat officer, no matter his natural gifts, needs much study, experience, and self-training ere he can hope to do himself justice.

114. The *Aquidaban*, although put completely out of action for the time being, was able, after a little patching up, to proceed to Rio de Janeiro under her own steam, and with her two fore-compartments still water-logged. She had been struck between the sixth and seventh frames; but the injuries on her port side extended from the bow to the twelfth frame, being confined, however, below the protective deck, which seems to have been practically undamaged. The water-tight bulkhead at the sixth frame was altogether carried away. The frames from that point

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to the twelfth also collapsed inwards ; but the water-tight bulkhead at the twelfth frame held fast.

115. On the starboard side of the ship, nearly abreast of the wound on the port side, close to frame seven, and about two feet above the keel, was a hole about two feet in diameter. The edges of this turned outwards. It is probable that this hole was occasioned by the head of the torpedo being blown right through the ship. Except in the immediate neighbourhood of the wounds, the hull was uninjured.

116. Upon learning what had occurred, the rebel garrisons of Forts São João and Santa Cruz and the officials at Desterro fled to the main ; and Santa Catharina Island was subsequently occupied, without resistance, by the government forces. Ashore the military revolt continued for some time longer, but it was ultimately crushed. Upon being repaired, the *Aquidaban* was renamed the *Vinte-cinco de Mayo*.

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